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NAVAL POSTGRADUATE SCHOOL

Monterey, California



THESIS

PERCEIVED EFFECTIVENESS OF CURRENT
MILITARY RETIREMENT ALTERNATIVES

by

William Cotesworth Keller

June 1979

Thesis Advisor:

E.A. Fincke

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PERCEIVED EFFECTIVENESS OF CURRENT
MILITARY RETIREMENT ALTERNATIVES

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
June 1979

ABSTRACT

This thesis develops and evaluates a methodology designed to quantify perceptions of alternative military retirement plans and components of retirement systems. The technique consists of factoring retirement proposals into common characteristics, surveying a sample of the military population, asking them to rank and weight characteristic importance and score how each plan fulfills each characteristic, and computing a relative weighted preference for each plan. Based on successful demonstration of this methodology using a sample of military officer students at the Naval Postgraduate School, it is recommended that this method be expanded to a sample of the entire military population. In view of the recent criticism alleging inefficiency and expensiveness of the existing system, the results of such an effort could be useful to the effectiveness portion of a systematic analysis aimed at choosing among alternative retirement systems.

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I. INTRODUCTION

A. CHARACTERISTICS OF MILITARY RETIREMENT PROGRAMS

The existing provisions for military retirement are just a subset of the complex U.S. military compensation system based on laws which now fill several volumes of the United States Code, which in turn have been interpreted and amplified by countless courts and Comptroller General decisions occupying hundreds of additional volumes. Compensation includes basic pay, quarters and subsistence (either in kind or cash), a guaranteed lifetime annuity in retirement, reenlistment bonuses, special hazardous duty pays, commissary and exchange privileges and medical and dental care.

U.S. military retirement practice itself dates back to the Revolutionary War when one-half pay for life was promised to officers remaining on active duty until the end of the war. Since then, various retirement plans have been initiated and enacted by Congress. In 1870, the option to retire after 30 years of active service began and the basis for the existing system was founded.

At least since the First Quadrennial Review of Military Compensation (the "Hubbell study" or QRMC) was released in 1966, the compensation system in general and retirement in particular has been increasingly criticized. The QRMC charged that retirement provisions provided neither management effectiveness for the government nor equity to the

member [ref. 2]. The President's Commission on Military Compensation (PCMC) reported in 1978 that the retirement system was ineffective, inefficient and too expensive [ref. 12]. Indeed, the Congressional Budget Office (CBO) has projected that retirement costs under the current system would reach \$12.8 billion by 1981, a 33 percent increase over the 1978 appropriation [ref. 5].

A comprehensive background on the military retirement issue in the context of the total compensation system is presented in Appendix A. The compensation issue in general, and the specific choice of which retirement plan to chose are significant issues not likely to be easily resolved.

The problem then, was that the existing military retirement plan was perceived by many to be ineffective and too expensive. Resolution presumably lies in either proving that the existing system is more cost effective than any feasible alternative or identifying the most efficient alternative retirement plan from the many under consideration. This general problem is certainly challenging considering the difficulty of measuring effectiveness in any terms, much less attempting to weigh it against dollar costs.

B. PURPOSE AND METHODOLOGY OF THE THESIS

This thesis is directed towards gaining further insight in the narrower area of perceived effectiveness. The problem this thesis attempts to solve is, how to measure users' perceptions of military retirement plans. The methodology

employed consists of:

- A survey of a limited sample of the military population.
- Asking respondents to judge recently considered alternative retirement plans based on two factors: their own interests and how each alternative might meet the defined retirement system objectives of the military.
- Factoring alternative systems into common characteristics. Respondents are asked to rank and weight characteristic importance and score how each plan fulfills that characteristic.
- Computing relative weighted scores for each plan for each respondent. (note 1)
- Displaying each complete plan and asking respondents to rank order their preference.

The specific objective of this thesis is to evaluate this method as a vehicle for identifying:

- Perceived most crucial components of military retirement plans.
- Most favored plans on a relative scale.

The four plans evaluated are described in Appendix A, Figures 43, 46, 47 and 48. They are the existing system, the plan proposed by the President's Commission on Military Compensation (PCMC), the Two-tier plan developed within DOD and similar in concept to the Retirement Modernization Act (RMA) of the early 1970's, and the latest plan submitted by the Secretary of Defense (SECDEF) in early 1979 and under consideration by the President at the time of this writing.

C. STRUCTURE OF THE THESIS

Chapter II discusses the surveyed population, the survey document itself, and how relative weighted preference is calculated for each respondent. Chapter III presents the

analysis of the reply data. First, the whole sample is analyzed by detailing their personal profile and how the respondents judged the relative importance of retirement plan characteristics, each alternative's provisions for the characteristics, and the total plans themselves. Then analysis is undertaken to seek perceptual differences among subgroups (i.e. by rank, service, etc.) of the sample. Finally, conclusions based on the data analysis are drawn relative to the surveyed population and also in regards to the stated objective of the thesis. Chapter IV includes recommendations concerning further use of this methodology.

References cited throughout the text are listed at the end of the thesis. Identifying or clarifying notes are grouped at the end of each chapter.

D. NOTES FOR CHAPTER I

1. The idea of the weighted relative merit technique was taken from a 1973 Air University thesis by then LtCol D.L. Anderson. Therein, the existing system, RMA, civil service and private sector retirement plans were compared using solely the author's values and judgements [Ref. 1].

II. THE SURVEY

A. THE POPULATION AND ITS LIMITATIONS

The population from which the sample was drawn consisted of the 937 military and other uniformed service officer students attending the Naval Postgraduate School (NPS) in March 1979. While all branches of the military plus the National Oceanographic Atmospheric Administration (NOAA) were included, the sample could hardly be considered representative of the military population. These NPS students were all officers grade O-2 to O-5 and as indicated by their selection to attend the school have, at least generally, enjoyed a successful and promising career or otherwise been screened from the overall military population.

B. THE SURVEY DOCUMENT

1. Structure and Content

The following discussion addresses the survey document which is displayed in Appendix B.

Section I defines both the objective of the survey and "effectiveness" in terms of a retirement system as it might be viewed by the military services. The definition of effectiveness for military retirement programs is taken verbatim from the First QRMCM with the exception of the deletion of "..., and protected against the inroads of inflation" from the last sentence under "just treatment of the member" [Ref. 2]. The survey's methodology is then explained to the potential respondent.

Section II contains the survey questions and is divided into four parts. The first part solicits personal data, opinions on the impact of the retirement system on one's decision to join the service, and information on one's career intentions both now and at time of enlistment.

In the second part, retirement plans are compared by component. Retirement plans in general are factored into six defined characteristics: early retirement, annuities, vesting, severance pay, benefits, and grandfathering. The various options offered within these characteristics are presented and respondents are asked to rank order their preference for how each plan meets each characteristic (beginning on page 7 of the survey). To further quantify their preference, respondents are asked to score how well they feel each plan fulfills each of the six characteristics. Thus, each respondent is ranking and scoring how he or she feels a particular retirement plan meets or fulfills each of the defined characteristics. (Note 1).

The respondents are then asked to consider the relative importance of the characteristics themselves as parts of a total retirement plan (page 18 of the survey). They are asked to rank order, then weight the six characteristics.

In the forth part, the survey displays the four alternative plans in total (pages 21 to 27 of the survey). The plans are not identified by name or source in the survey; however, plan one represents the existing system, plan two is the PCMC proposal, plan three is the two tier plan, and

plan four is the SECDEF plan. The final survey question asks that the plans be rank ordered.

Section III of the survey is a feedback request form for those students desiring a summary of the evaluated survey results.

2. Limitations and Assumptions

A significant limitation of the survey document is that it would not be suitable for universal application as written. It was drafted by a NPS student and intended to be distributed only to his peers; and therefore is designed to communicate with only a small portion of the military population.

The requirement that respondents reply based on what they think is best for them and the military assumes that retirement system effectiveness for the individual is not in conflict with effectiveness for the service. Consideration was given to constructing the survey to allow for two or even three replies to each of the key questions: one answer for the individual, one for the service and perhaps one for an average or overall reply. However, after giving a small pre-survey and finding out how long it took to answer the questions as they were (about an hour), it was decided not to expand the document.

The severance pay issue was not directly addressed under the Two-tier plan. It was assumed that if a Two-tier plan were ultimately proposed by DOD, it would have similar severance pay provisions to the SECDEF plan. Therefore, in the survey, plans three and four share the same severance pay provisions.

Several other components of military retirement systems are noted in Appendix A but are not defined as characteristics within the survey. They include the contributory/non-contributory issue, bases for retirement pay raises, social security offset and provisions for dealing with dual compensation. While these features are relevant for a general comparison of military retirement alternatives, they were omitted in this work because they were either common to all considered alternatives or not sufficiently defined within the currently considered alternatives.

C. COMPUTATION OF RELATIVE WEIGHTED PREFERENCE

The key perceived merit measure of each survey response is the relative weighted preference for each of the four alternative plans. These relative weighted preferences are calculated in three steps for each respondent as depicted in Figure 1 and explained below:

Step 1. Raw characteristic weights assigned by the respondent are normalized by summing the weights assigned to each of the six characteristics and dividing each raw weight by that sum. The result is a normalized weight for each characteristic.

Step 2. The normalized weight for each characteristic is then multiplied by the fulfillment score the respondent assigned for each retirement plan's provision under that characteristic. The result is a product (assigned the symbol "WxS") for each characteristic under that plan.

Step 3. These products (WxS) are then summed within each plan to arrive at a relative weighted preference for that particular alternative retirement system. (Note 2).

These calculations are based on two assumptions:

1. Since benefits were not currently addressed in either the Two-tier or SECDEF plan, scores for this characteristic under these plans were assigned values equal to the average scores allotted by the respondent to the other two (existing and PCMC) plans. Thus, the first assumption is that benefits provided under a Two-tier or SECDEF plan would be equal to the average of benefits perceived under the existing and PCMC plans.

2. The second assumption concerns the fact that, by definition, grandfathering cannot be scored for the existing system. In order to complete the calculation while not penalizing the existing system, grandfathering under the existing plan was assigned a score equal in value to the maximum score allotted to grandfathering under the other three plans.

<u>CHARACTERISTIC</u>	<u>RAW CHARACTERISTIC WEIGHT ASSIGNED</u>	<u>(W) NORMALIZED WEIGHT</u>	<u>(S) FULFILLMENT SCORES ASSIGNED FOR PLAN 1</u>	<u>(WxS) WEIGHT TIMES FULFILLMENT SCORES</u>
Early Retirement	RCWER	RCWER/SUM(RCW'S)	SER 1	WxSER 1
Annuities	RCWAN	RCWAN/SUM	SAN 1	WxSAN 1
Vesting	RCWVE	RCWVE/SUM	SVE 1	WxSVE 1
Severance Pay	RCWSP	RCWSP/SUM	SSP 1	WxSSP 1
Benefits	RCWBE	RCWBE/SUM	SBE 1	WxSBE 1
Grandfathering	RCWGF	RCWGF/SUM	SGF 1	WxSGF 1
	SUM(RCW's)	Relative Weighted Preference, Plan 1 = SUM (WxS's)		

Figure 1 - CALCULATION OF RELATIVE WEIGHTED PREFERENCE
FOR ONE RESPONDENT AND ONE RETIREMENT PLAN

D. NOTES FOR CHAPTER II

1. It may be noted on pages 8-18 of the survey that within characteristics, there may be two, three or four options to choose from. This happens because some plans share common provisions within characteristics.

2. Another assumption, implicit in the method used for calculating relative weighted preference, is that of linearity. We are presuming that component characteristic products ($W \times S$) can be added linearly to arrive at relative weighted preference for a whole plan.

III. RESULTS

A. DATA ANALYSIS OF THE WHOLE SAMPLE

1. Profile of the Sample

Two hundred seventy eight survey documents (or 30% of those distributed) were returned completed. Many noted, either on the survey or in person to the author, that it took at least an hour to complete. One hundred thirty nine students requested feedback, indicating that half of the respondents were interested in the fruits of their labor, the retirement issue, or perhaps both.

Twenty of the 278 surveys returned lacked one or more of the score or weight value replies needed to calculate relative weighted preference. While there are statistical methods available for dealing with such missing values, it was felt that omission of this relatively small number of cases from the large sample was prudent and hence, missing value techniques were not employed.

Branch, rank, and years of service profiles for the sample are displayed in Figures 2 through 4 respectively. (Notes 1, 2).

The sample can be categorized by modal tendencies of career intention and opinion replies shown in Figures 5 through 7. The military retirement system had a significant effect on their decision to join the service, yet respondents were unsure about their career intentions when they signed on. As of now, they intend to stay until first eligible to retire.

CATEGORY	LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
ARMY		1.	27	10.5	10.5
NAVY		2.	182	70.5	81.0
US AF		3.	15	5.8	86.8
USMC		4.	21	8.1	95.0
USCG		5.	12	4.7	99.6
OTHER		6.	1	0.4	100.0
		TOTAL	258	100.0	

Figure 2 - RESPONDENTS BY BRANCH OF SERVICE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
1-5 YEARS	A	43	16.7	16.7
6-10 YEARS	B	119	46.1	62.8
11-15 YEARS	C	82	31.8	94.6
16-20 YEARS	D	13	5.0	99.6
OVER 20 YEARS	E	1	0.4	100.0
	TOTAL	258	100.0	

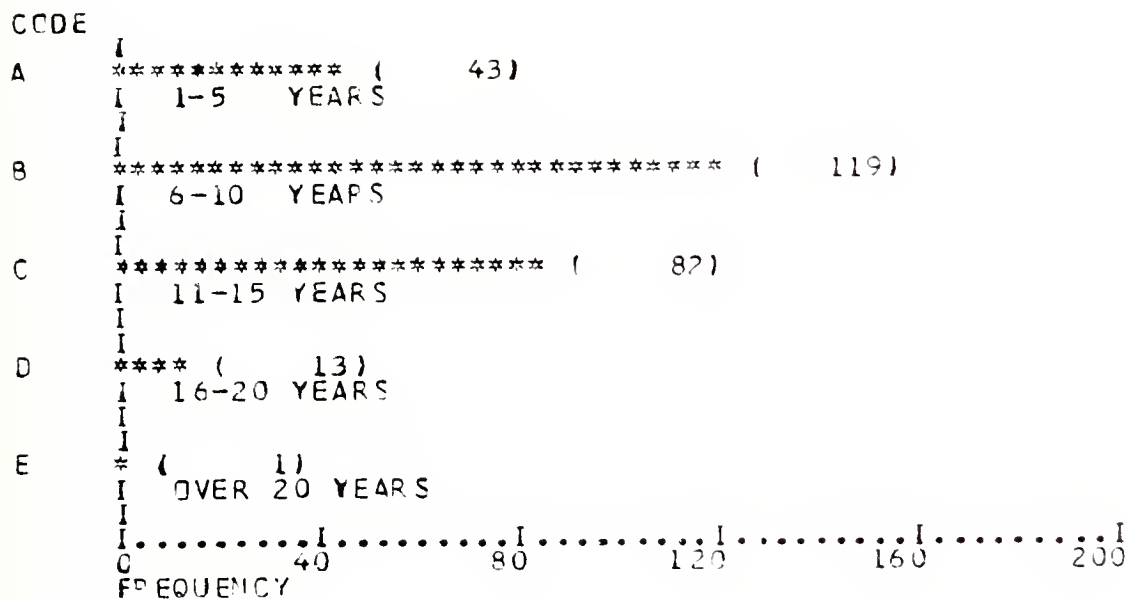


Figure 4 - RESPONDENTS BY YEARS OF SERVICE

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
		1	0.4	0.4
NO EFFECT	A	52	20.2	20.5
LITTLE EFFECT	B	73	28.3	48.8
SIGNIFICANT EFFECT	C	90	34.9	83.7
NO ENL WITHOUT IT	D	22	8.5	92.2
DRAFTED, NO CHOICE	E	19	7.4	99.6
	O	1	0.4	100.0
	TOTAL	258	100.0	

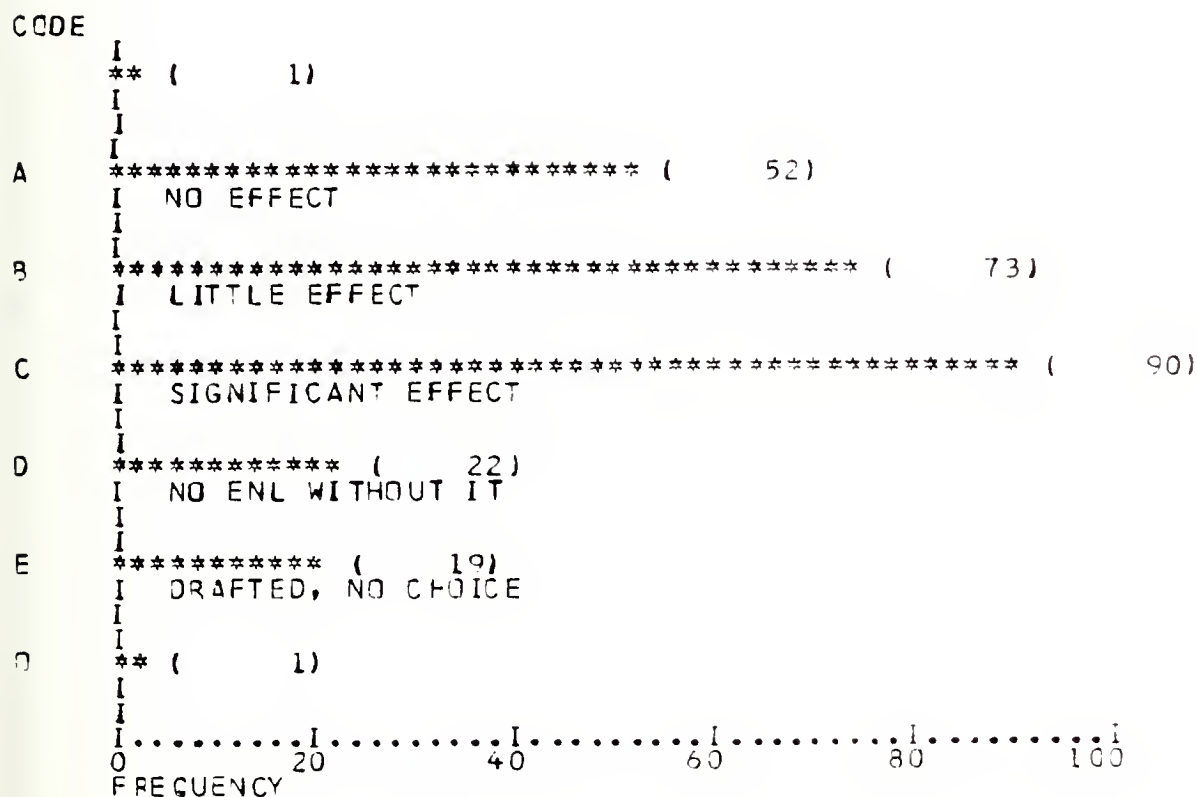


Figure 5 - EFFECT OF RETIREMENT ON ENLISTMENT

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
STAY INITIAL OBLIG	A	72	27.9	27.9
UNSURE	B	119	46.1	74.0
STAY TIL 1ST RETIRE	C	36	14.0	88.0
BEYOND 1ST RETIRE	D	31	12.0	100.0
	TOTAL	258	100.0	

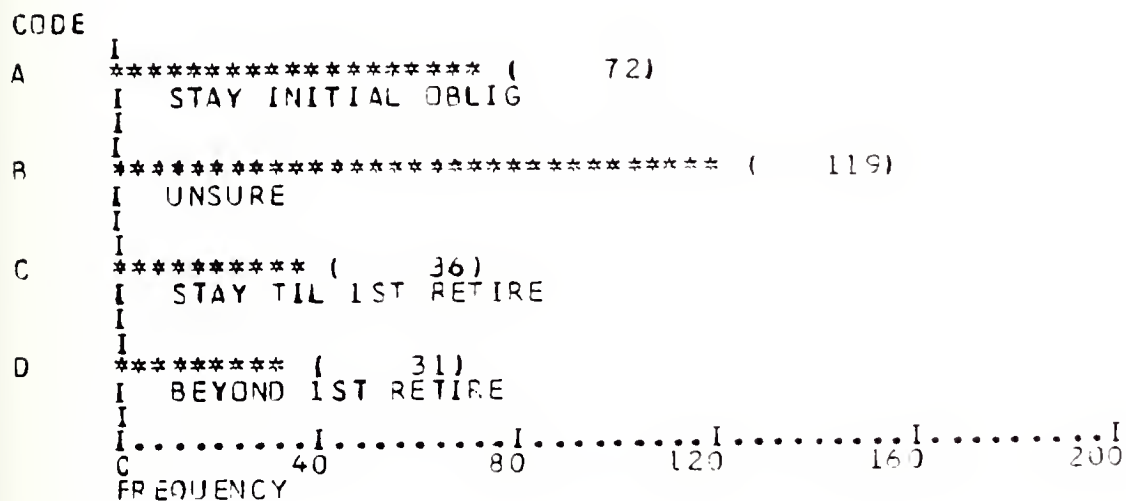


Figure 6 - CAREER INTENTIONS AT ENLISTMENT

CATEGORY LABEL	CODE	AB SOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
OUT AT END OF OBLIG	A	2	0.8	0.8
UNSURE	B	73	28.3	29.1
STAY TIL 1ST RETIRE	C	118	45.7	74.8
BEYOND 1ST RETIRE	D	65	25.2	100.0
	TOTAL	258	100.0	

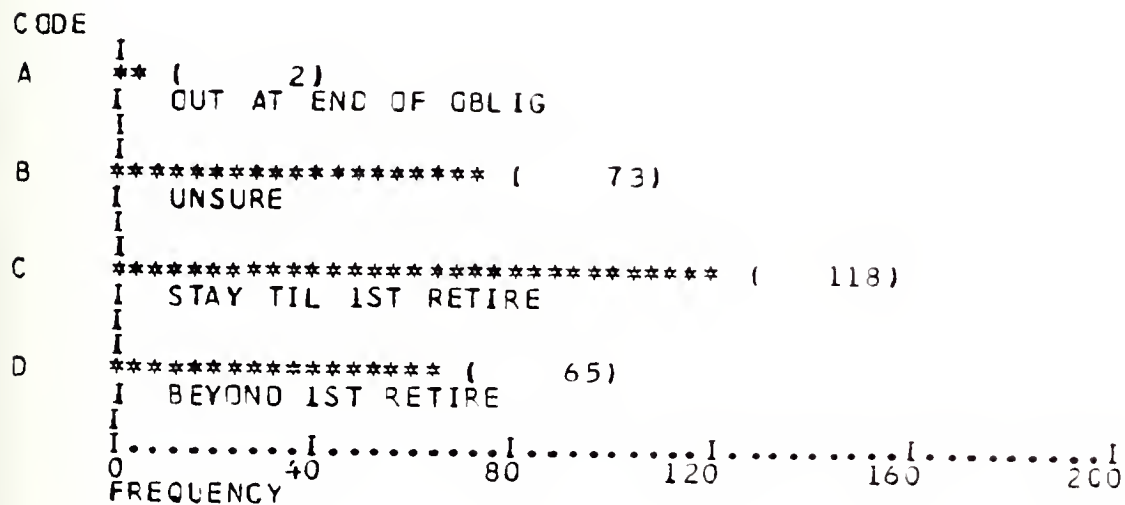


Figure 7 - CAREER INTENTIONS NOW

2. Retirement Plan Characteristics

a. Characteristic Importance Weights

(1) Mean Characteristic Weights. Recall from Chapter II that the respondents were asked to assign weights to the six characteristics of retirement plans based on how important they felt these characteristics were as part of a total retirement plan. These "raw weights" were normalized to facilitate calculation of the relative weighted preference for each whole plan.

Based on the mean weights shown in Figure 8, both raw and normalized, those surveyed clearly felt that early retirement and annuities, respectively, were the most important characteristics of retirement plans. Benefits and grandfathering were next, followed by vesting and severance pay respectively.

(2) Testing for Significant Difference. The differences among the raw characteristic weight means were statistically significant well beyond the .001 level. Figure 50 in Appendix C summarizes the one way analysis of variance (ANOVA) conducted to arrive at this conclusion.

By design, the normalized weights are constrained in that they must sum to 1. For this reason ANOVA would not be statistically valid on these variables.

<u>CHARACTERISTIC</u>	<u>RAW WEIGHT</u>	<u>NORMALIZED WEIGHT</u>
Early Retirement	86.074(20.771)	.219(.068)
Annuities	82.628(18.864)	.209(.053)
Benefits	69.473(28.332)	.170(.067)
Grandfathering	65.733(30.797)	.159(.074)
Vesting	53.806(28.048)	.129(.062)
Severance Pay	48.632(28.956)	.115(.063)

(with Standard Deviation)

Figure 8 - CHARACTERISTIC IMPORTANCE WEIGHTS

b. Characteristic Importance Rankings

In addition to weighting characteristics respondents were asked to rank order the six characteristics to indicate how important they felt they were within a military retirement plan.

Frequencies of rank response by characteristic are displayed in Figures 9 through 14. The overwhelming perceived importance of the defined early retirement characteristic seems obvious. Almost 59% of the respondents felt it was number one in importance. Only 13% ranked early retirement lower than number three. Annuities seems to be second with 67% of the sample ranking it at least second. Benefits and grandfathering seem to be perceived as the next most important characteristics with cumulative frequencies of 59% and 52% at the number three rank respectively. Vesting and severance pay appear least preferred with cumulative frequencies of 62% at the fourth rank and 73% at the fifth rank respectively. These rank orderings of characteristic importance seem to agree with the average weighted preferences reported in the previous section.

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	152	58.9	58.9
	2.	47	18.2	77.1
	3.	25	9.7	86.8
	4.	15	5.8	92.6
	5.	15	5.8	98.4
	6.	4	1.6	100.0
	TOTAL	258	100.0	

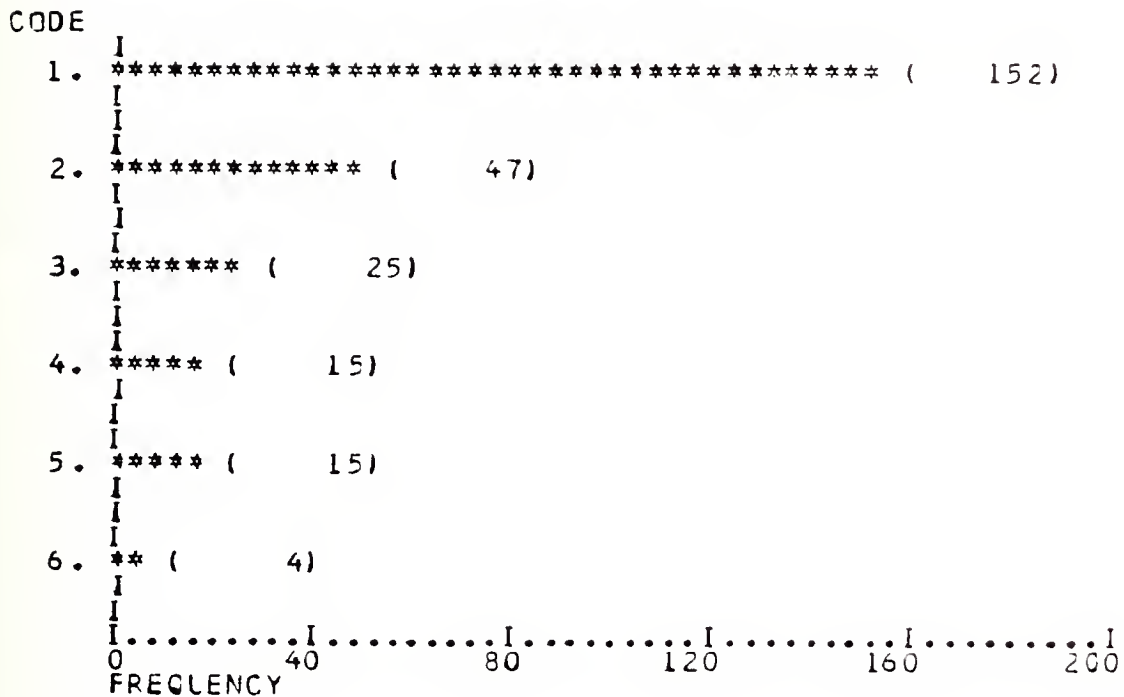


Figure 9 - CHARACTERISTIC IMPORTANCE RANKING,
EARLY RETIREMENT

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	84	32.6	32.6
	2.	89	34.5	67.1
	3.	43	16.7	83.7
	4.	28	10.9	94.6
	5.	10	3.9	98.4
	6.	4	1.6	100.0
	TOTAL	258	100.0	

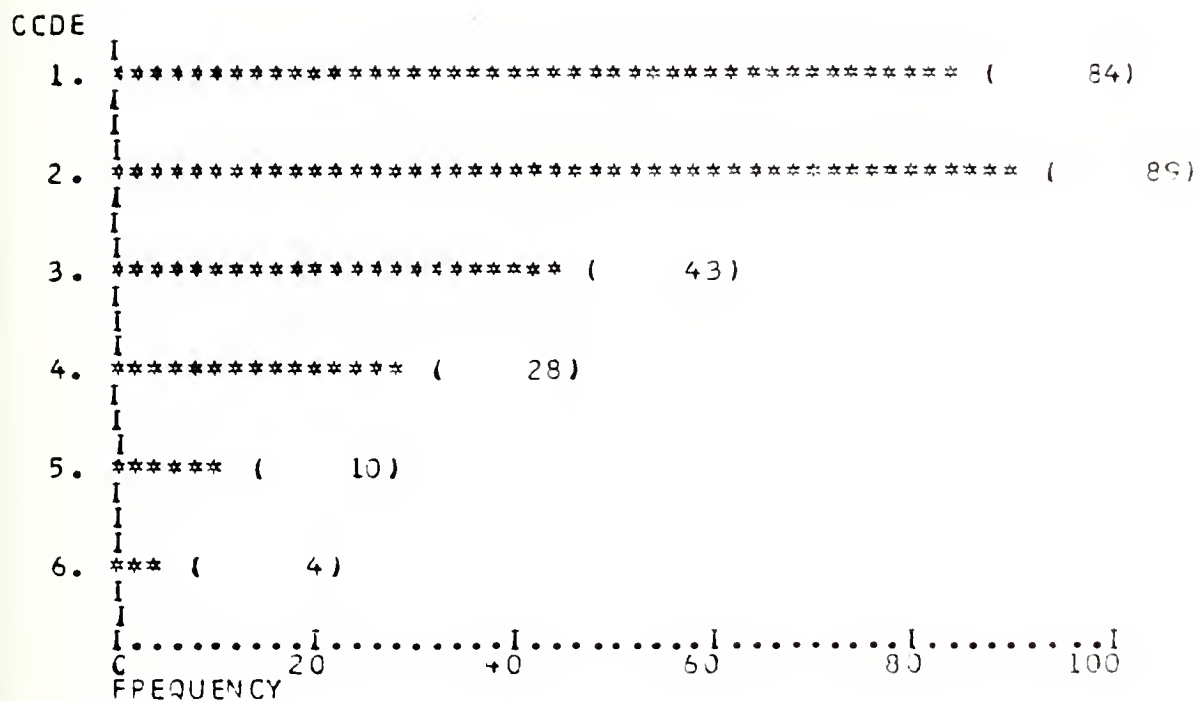


Figure 10 - CHARACTERISTIC IMPORTANCE RANKING,
ANNUITIES

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	11	4.3	4.3
	2.	30	11.6	15.9
	3.	64	24.8	40.7
	4.	54	20.9	61.6
	5.	53	20.5	82.2
	6.	46	17.8	100.0
	TOTAL	258	100.0	

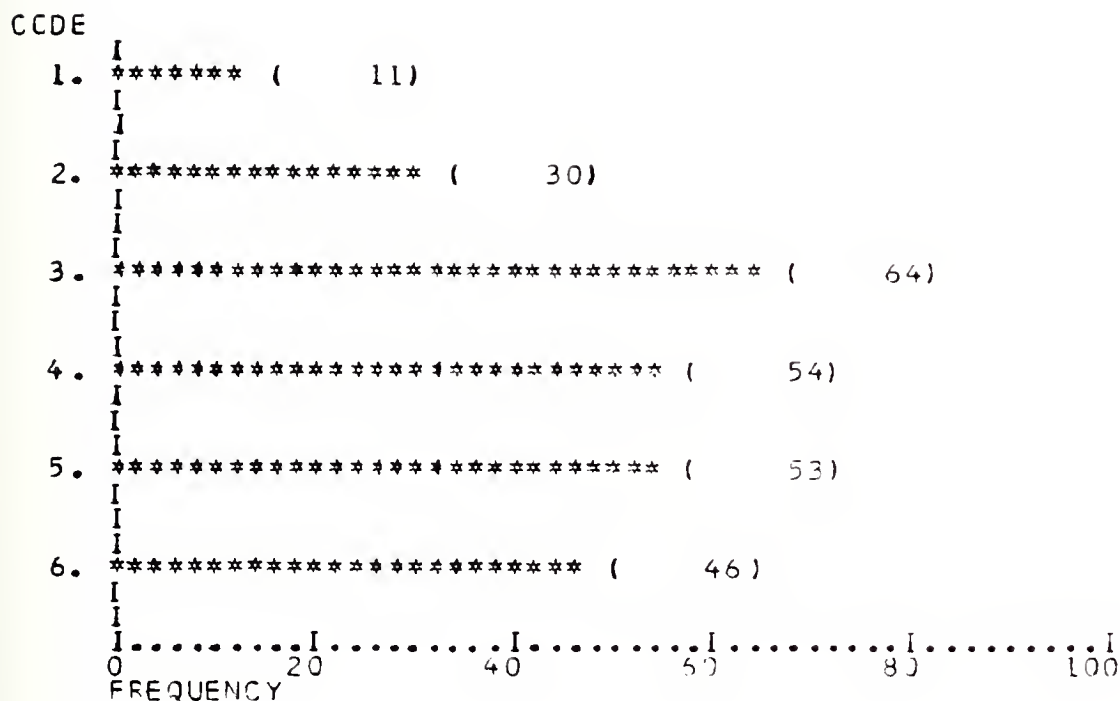


Figure 11 - CHARACTERISTIC IMPORTANCE RANKING,
VESTING

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	10	3.9	3.9
	2.	18	7.0	10.9
	3.	42	16.3	27.1
	4.	57	22.1	49.2
	5.	61	23.6	72.9
	6.	70	27.1	100.0
	TOTAL	258	100.0	

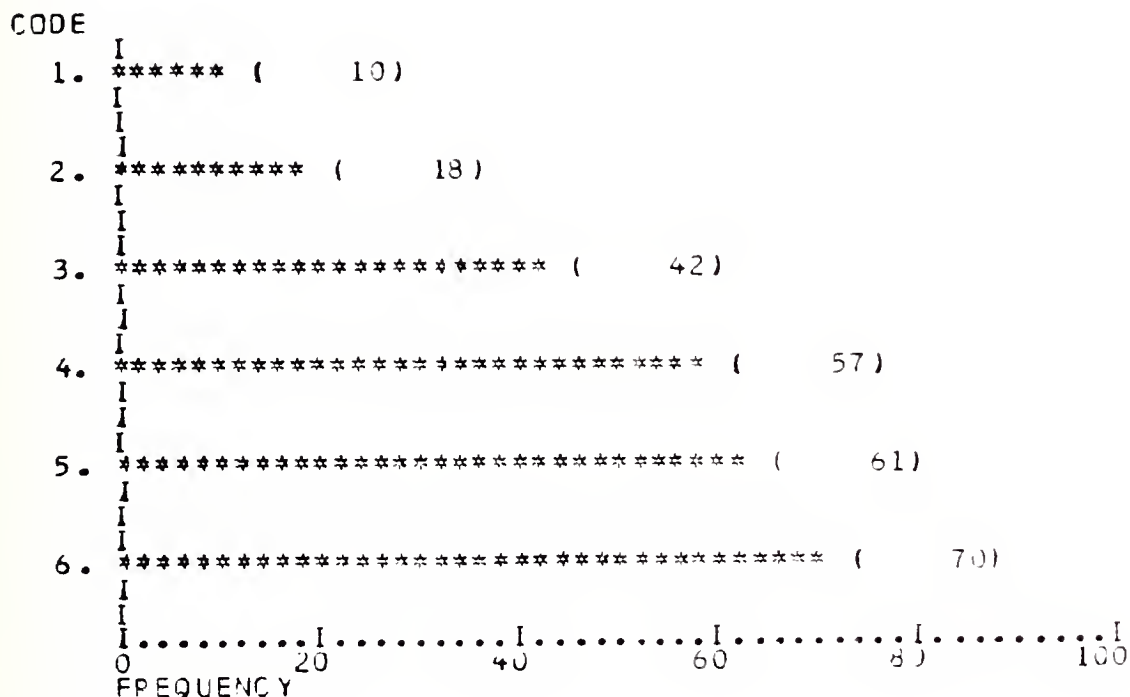


Figure 12 - CHARACTERISTIC IMPORTANCE RANKING,
SEVERANCE PAY

CATEGORY LABEL	CCODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	45	17.4	17.4
	2.	58	22.5	39.9
	3.	50	19.4	59.3
	4.	41	15.9	75.2
	5.	38	14.7	89.9
	6.	26	10.1	100.0
	TOTAL	258	100.0	

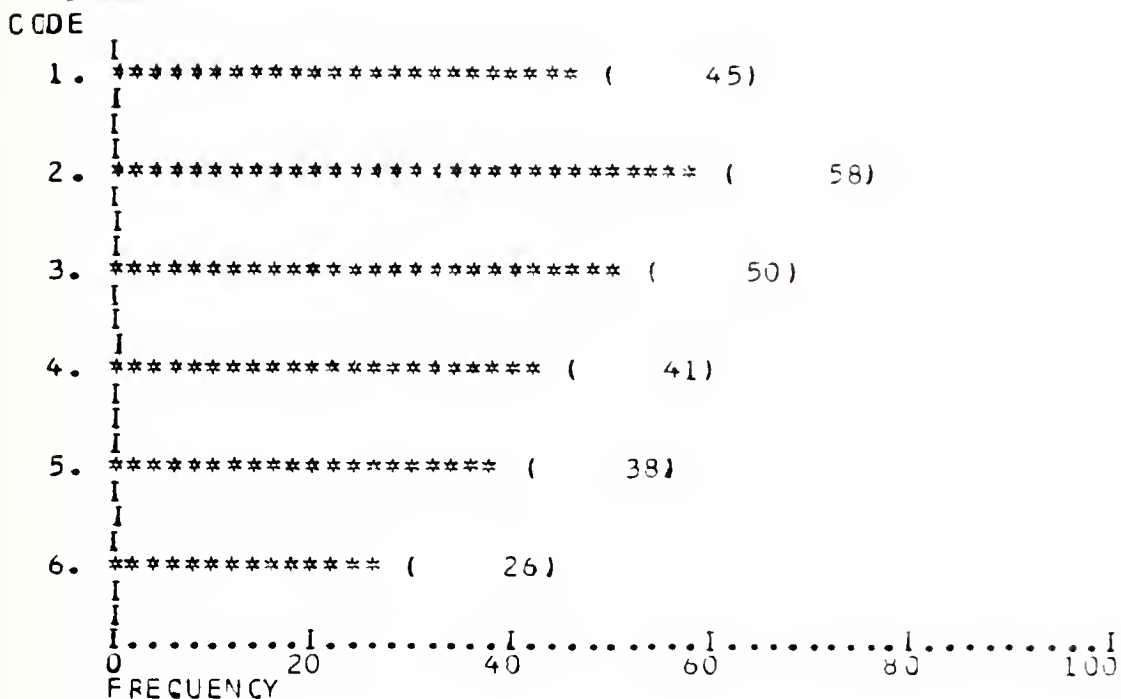


Figure 13 - CHARACTERISTIC IMPORTANCE RANKING,
BENEFITS

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	62	24.0	24.0
	2.	31	12.0	36.0
	3.	41	15.9	51.9
	4.	46	17.8	69.8
	5.	33	12.8	82.6
	6.	45	17.4	100.0
	TOTAL	258	100.0	

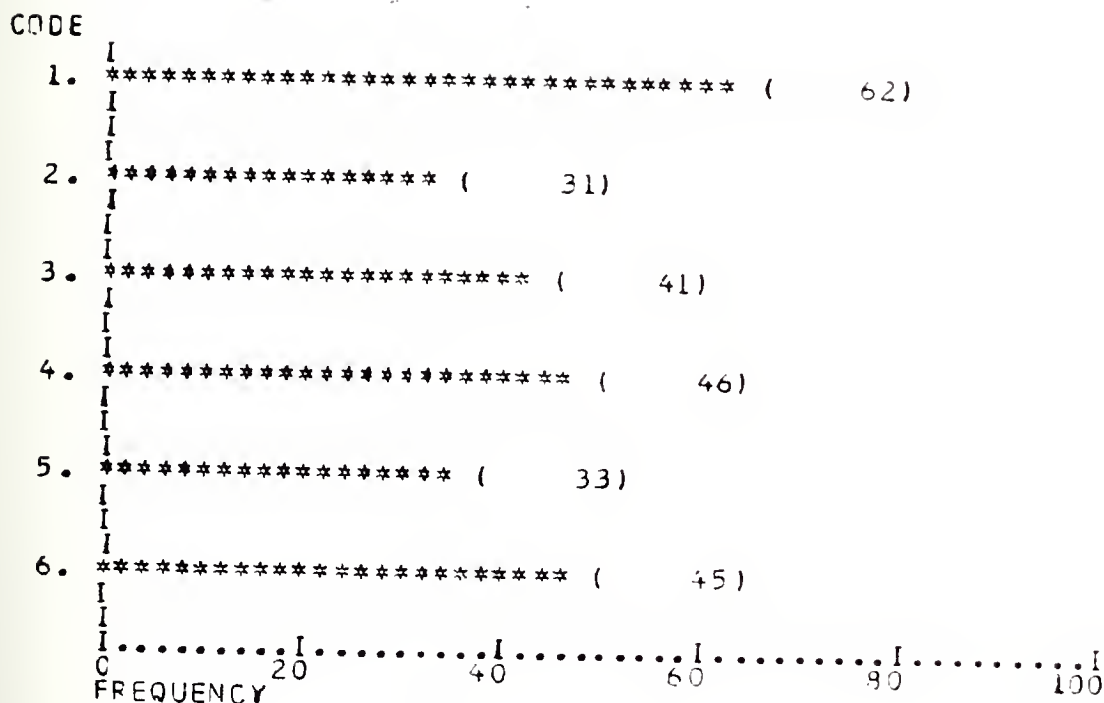


Figure 14 - CHARACTERISTIC IMPORTANCE RANKING,
GRANDFATHERING

3. Plan Fulfillment of Characteristics

a. Fulfillment Scores

(1) Mean Scores. Respondents were also asked to indicate how well they thought various plans fulfilled defined characteristics by assigning scores from 0 to 100 to available options. These data are summarized in Figure 15 and were analyzed by evaluating the means of the several fulfillment scores. Within the early retirement and benefits characteristics, provisions of the existing system were clearly favored. The existing plan also scored highest, albeit by a smaller margin, in annuities and severance pay respectively. The PCMC proposal scored highest in the vesting characteristic, closely followed by the Two-tier plan. The SECDEF plan scored highest in grandfathering, with the Two-tier provisions a relatively close second.

(2) Testing for Significant Difference. Differences among the mean characteristic fulfillment scores for each plan were analyzed using analysis of variance (ANOVA) techniques and were found to be statistically significant well beyond the .001 level. In other words the mean score for the existing plan's fulfillment of the early retirement characteristic differed significantly from the PCMC, Two-tier and SECDEF mean fulfillment scores for early retirement. Figure 51, Appendix C provides the appropriate ANOVA tables.

MEAN CHARACTERISTIC FULFILLMENT SCORE, BY PLAN

(With Standard Deviation)

<u>CHARACTERISTIC</u>	<u>EXISTING</u>	<u>PCMC</u>	<u>TWO-TIER</u>	<u>SECDEF</u>
Early Retirement	92.492 (15.067)	33.930 (26.413)	53.713 (25.395)	Same as Two-tier
Annuities	82.674 (20.379)	65.953 (27.417)	51.531 (27.204)	Same as Two-tier
Vesting	22.120 (35.542)	68.686 (28.756)	57.260 (25.824)	65.151 (28.698)
Severance Pay	61.295 (30.816)	53.403 (29.797)	50.667 (30.738)	Same as Two-tier
Benefits	80.242 (26.120)	43.322 (30.693)	N/A	N/A
Grandfathering	N/A	58.581 (28.969)	65.678 (29.151)	67.678 (30.879)

Figure 15 - CHARACTERISTIC FULFILLMENT SCORE SUMMARY,
BY PLAN

b. Rank Order Preference

As noted in Chapter II, respondents were asked to rank order the way they felt plans provided for each characteristic. Analysis of the frequencies of their responses seems to support the findings of the average score method (as summarized in Figure 15). Plans with the highest frequency of number one rankings also had the highest average score within each characteristic and the relative order of perceived fulfillment/provision appeared to be the same by both methods.

Figures 16 to 33 detail the sample's response to ranking plan provisions for each of the six characteristics.

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	1	0.4	0.4
	1.	205	79.5	79.8
	2.	35	13.6	93.4
	3.	17	6.6	100.0
	TOTAL	258	100.0	

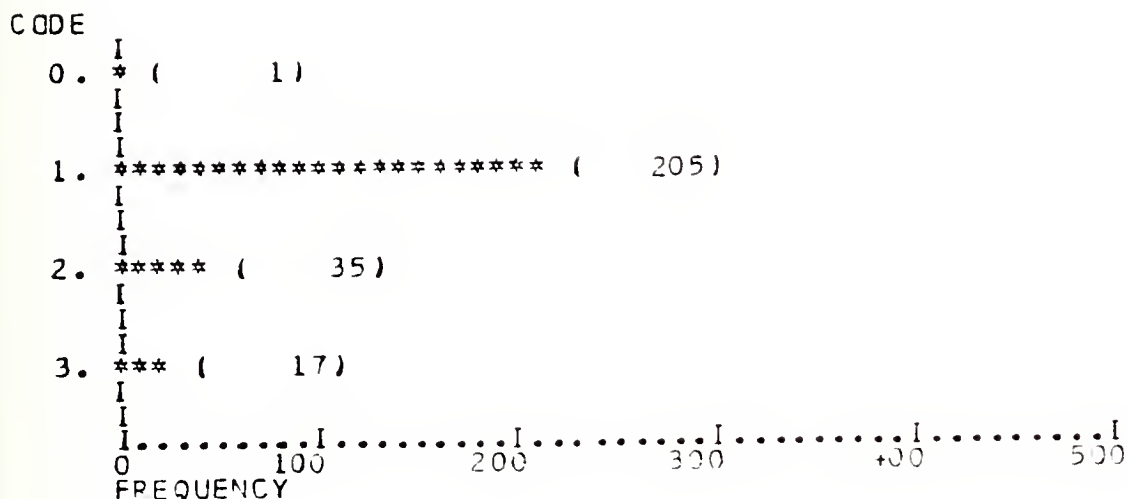


Figure 16 - RANKED PREFERENCE, EARLY RETIREMENT,
EXISTING SYSTEM

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	1	0.4	0.4
	1.	9	3.5	3.9
	2.	32	12.4	16.3
	3.	216	83.7	100.0
	TOTAL	258	100.0	

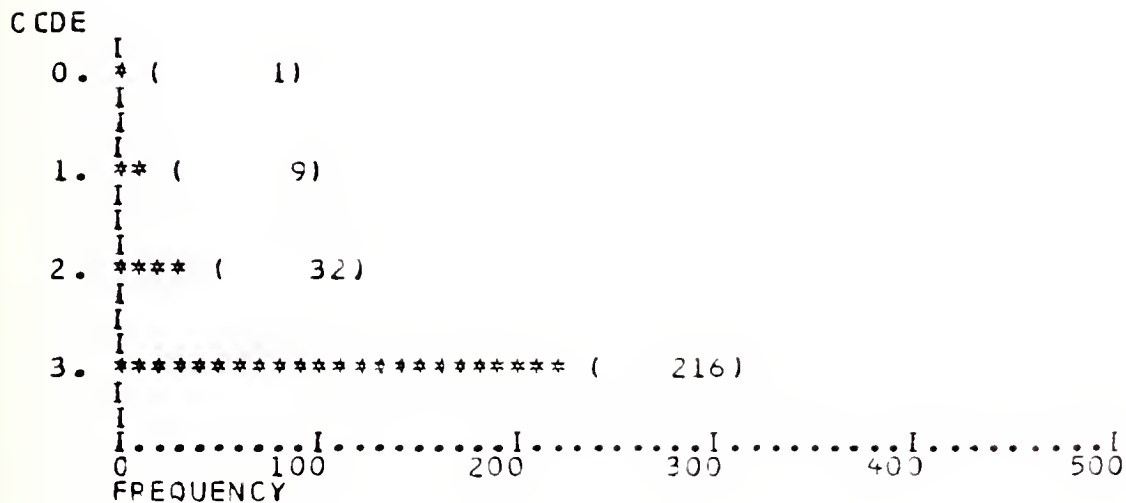


Figure 17 - RANKED PREFERENCE, EARLY RETIREMENT, PCMC

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	1	0.4	0.4
	1.	43	16.7	17.1
	2.	183	70.9	88.0
	3.	31	12.0	100.0
	TOTAL	258	100.0	

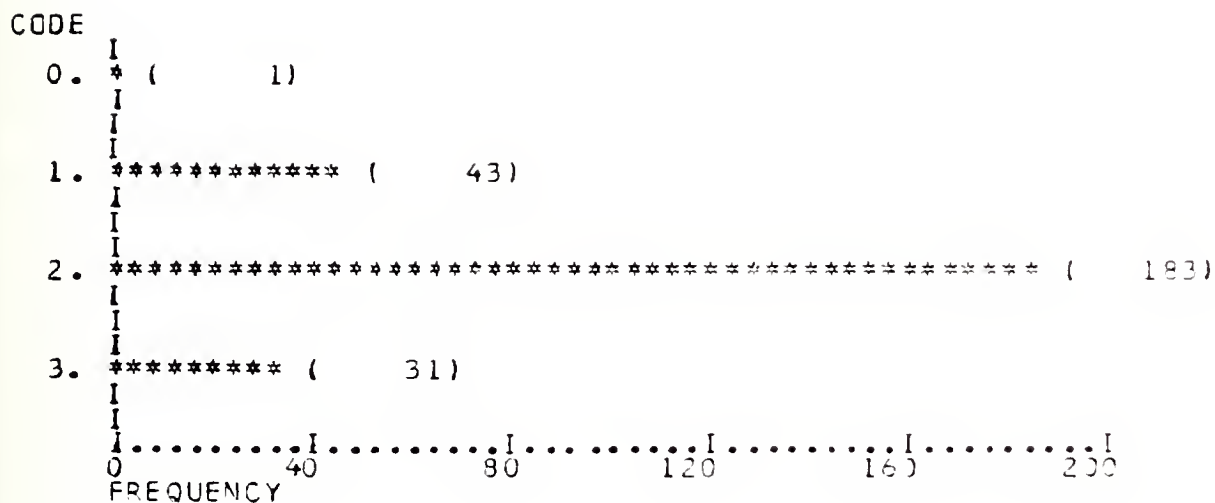


Figure 18 - RANKED PREFERENCE, EARLY RETIREMENT,
TWO TIER OR SECDEF

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	146	56.6	56.6
	2.	79	30.6	87.2
	3.	33	12.8	100.0
	TOTAL	258	100.0	

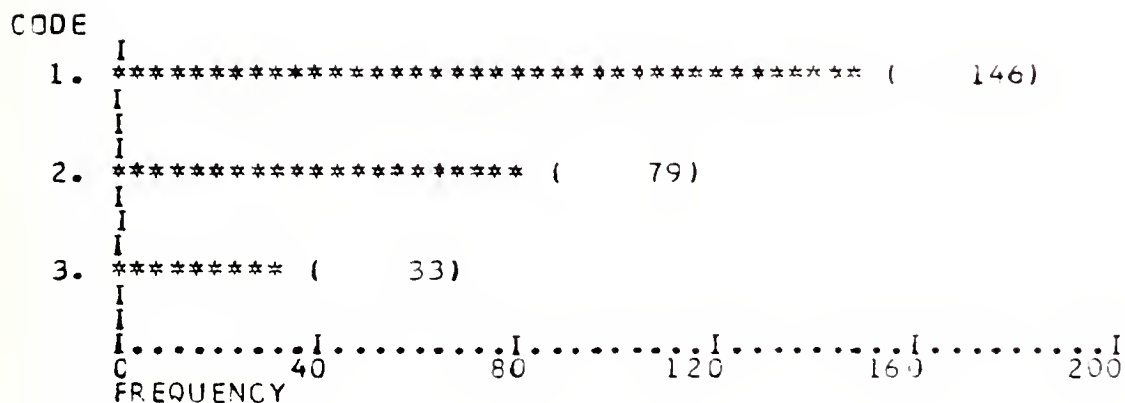


Figure 19 - RANKED PREFERENCE, ANNUITIES, EXISTING SYSTEM

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	75	29.1	29.1
	2.	119	46.1	75.2
	3.	64	24.8	100.0
	TOTAL	258	100.0	

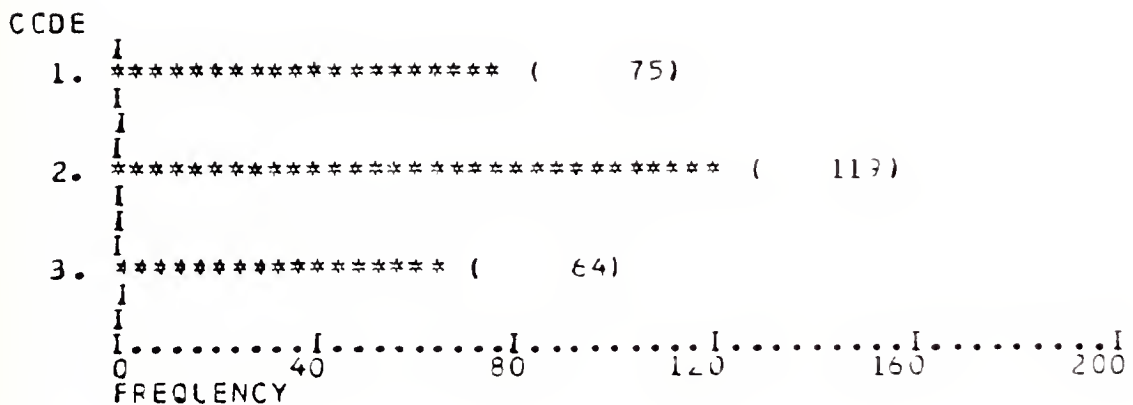


Figure 20 - RANKED PREFERENCE, ANNUITIES, PCMC PLAN

CATEGORY LABEL (RANKING)	CCDE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	36	14.0	14.0
	2.	59	22.9	36.8
	3.	163	63.2	100.0
	TOTAL	258	100.0	

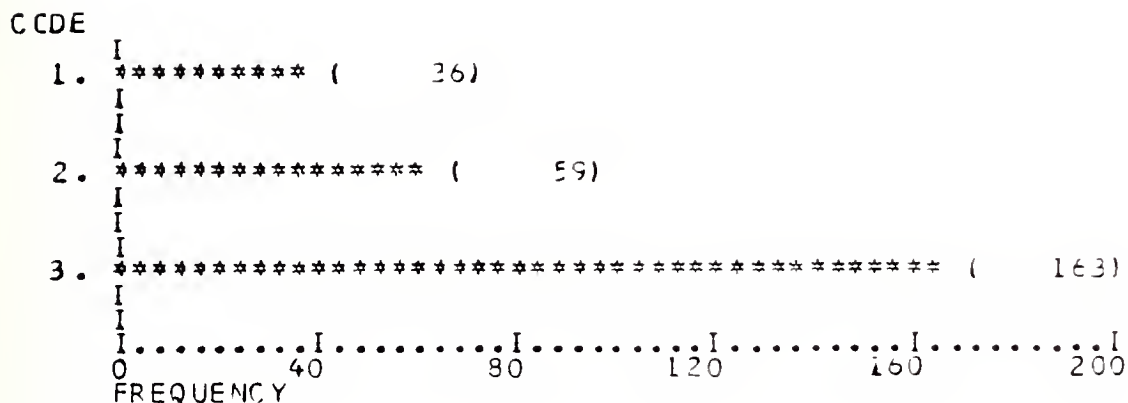


Figure 21 - RANKED PREFERENCE, ANNUITIES, TWO TIER
OR SECDEF

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	48	18.6	18.6
	2.	10	3.9	22.5
	3.	11	4.3	26.7
	4.	189	73.3	100.0
	TOTAL	258	100.0	

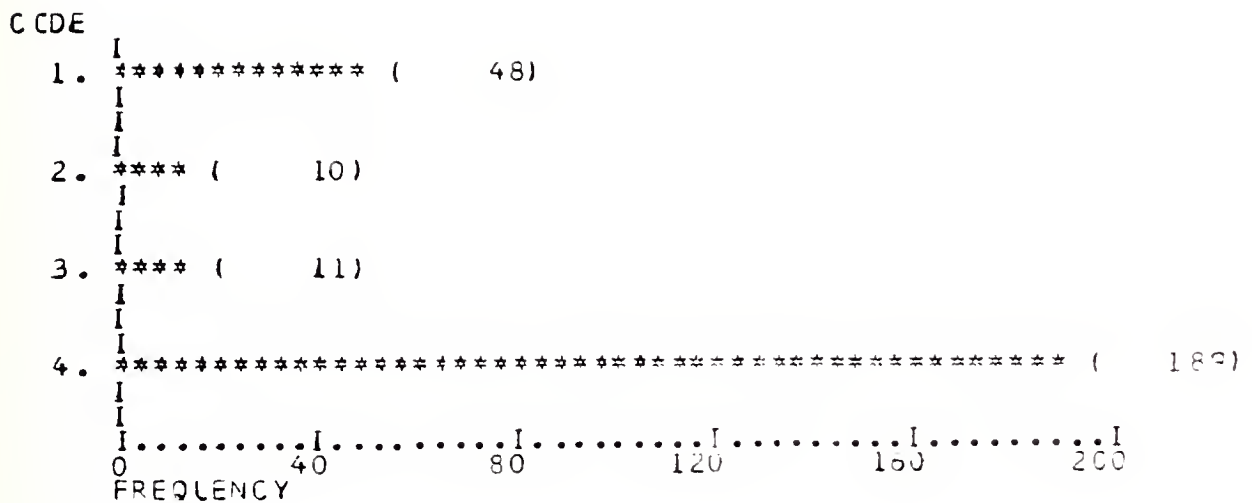


Figure 22 - RANKED PREFERENCE, VESTING, EXISTING SYSTEM

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	1	0.4	0.4
	1.	114	44.2	44.6
	2.	66	25.6	70.2
	3.	53	20.5	90.7
	4.	24	9.3	100.0
	TOTAL	258	100.0	

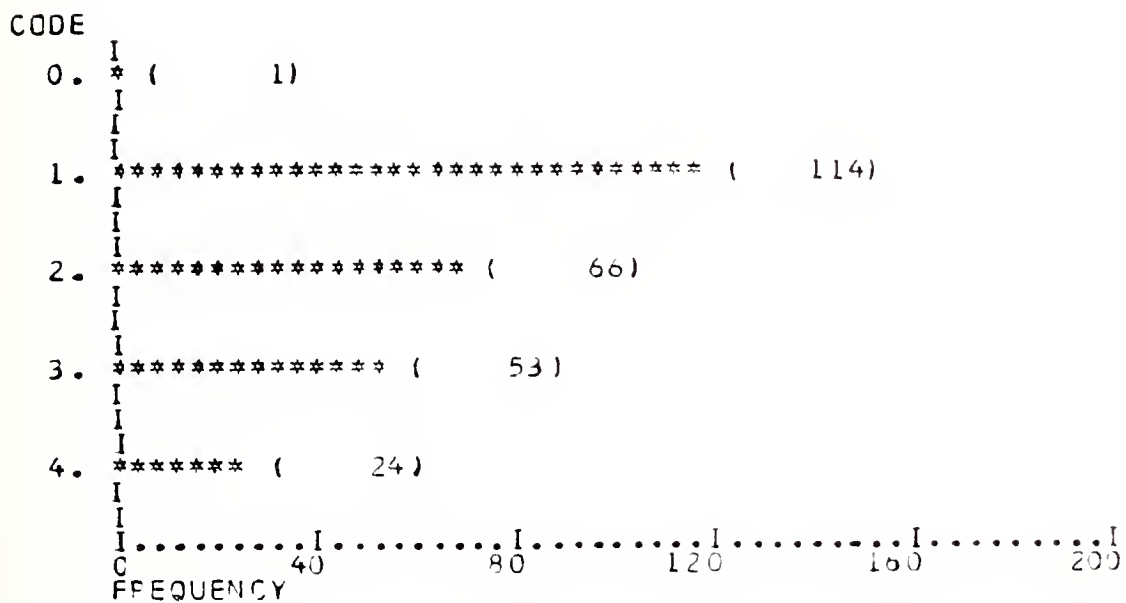


Figure 23 - RANKED PREFERENCE, VESTING, PCMC PLAN

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	1	0.4	0.4
	1.	19	7.4	7.8
	2.	85	32.9	40.7
	3.	132	51.2	91.9
	4.	21	8.1	100.0
	TOTAL	258	100.0	

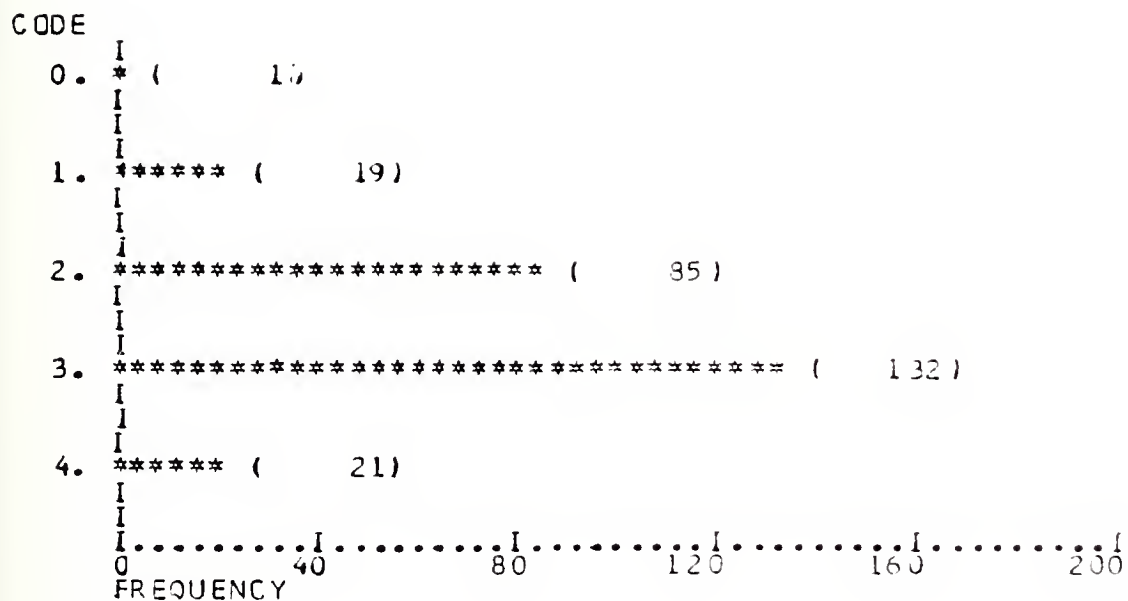


Figure 24 - RANKED PREFERENCE, VESTING, TWO TIER PLAN

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	0.	1	0.4	0.4
	1.	78	30.2	30.6
	2.	90	34.9	65.5
	3.	54	20.9	86.4
	4.	35	13.6	100.0
	TOTAL	258	100.0	

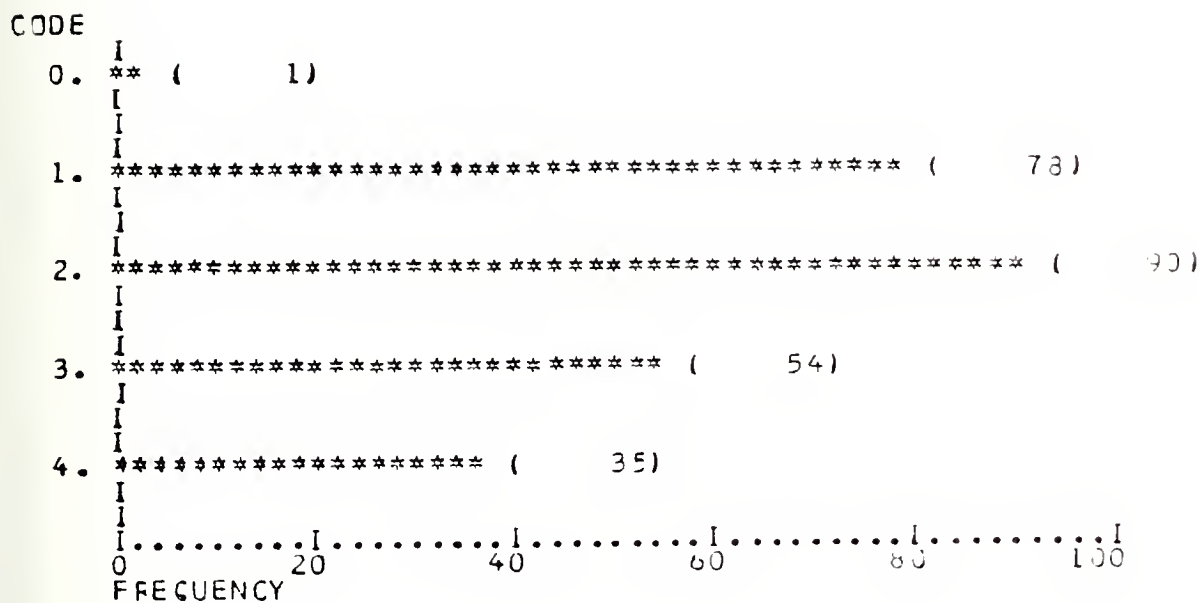


Figure 25 - RANKED PREFERENCE, VESTING, SECDEF PLAN

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	124	48.1	48.1
	2.	40	15.5	63.6
	3.	94	36.4	100.0
	TOTAL	258	100.0	

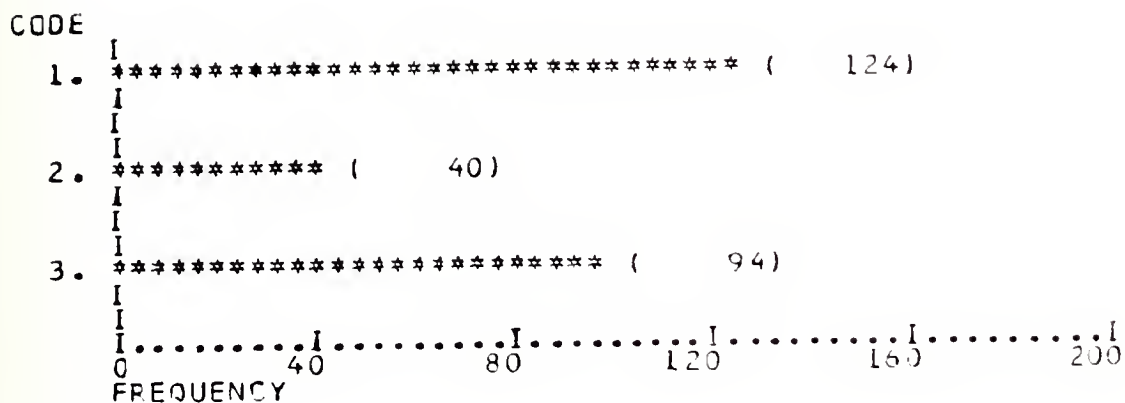


Figure 26 - RANKED PREFERENCE, SEVERANCE PAY,
EXISTING SYSTEM

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	70	27.1	27.1
	2.	112	43.4	70.5
	3.	75	29.1	99.6
	4.	1	0.4	100.0
	TOTAL	258	100.0	

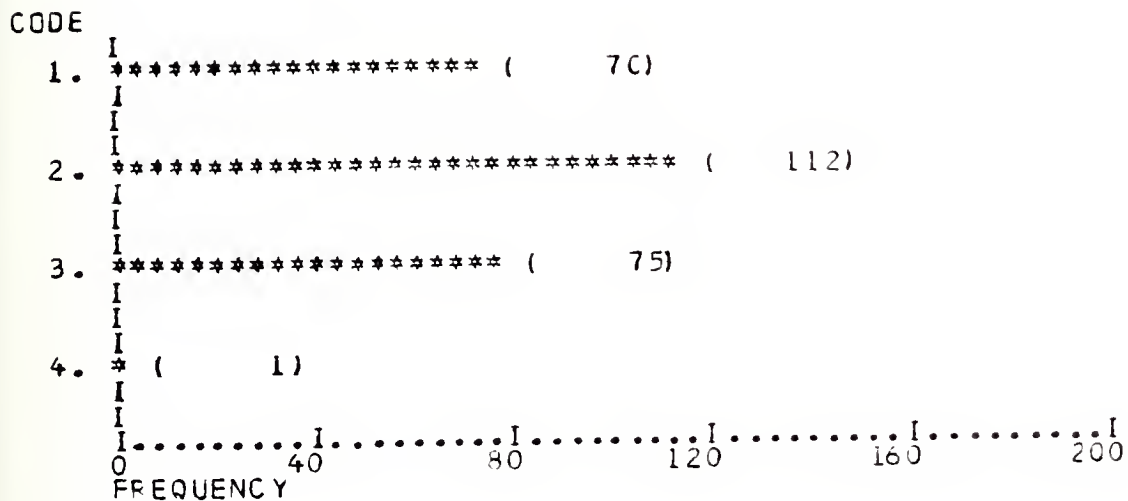


Figure 27 - RANKED PREFERENCE, SEVERANCE PAY,
PCMC PLAN

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	61	23.6	23.6
	2.	97	37.6	61.2
	3.	99	38.4	99.6
	4.	1	0.4	100.0
	TOTAL	258	100.0	

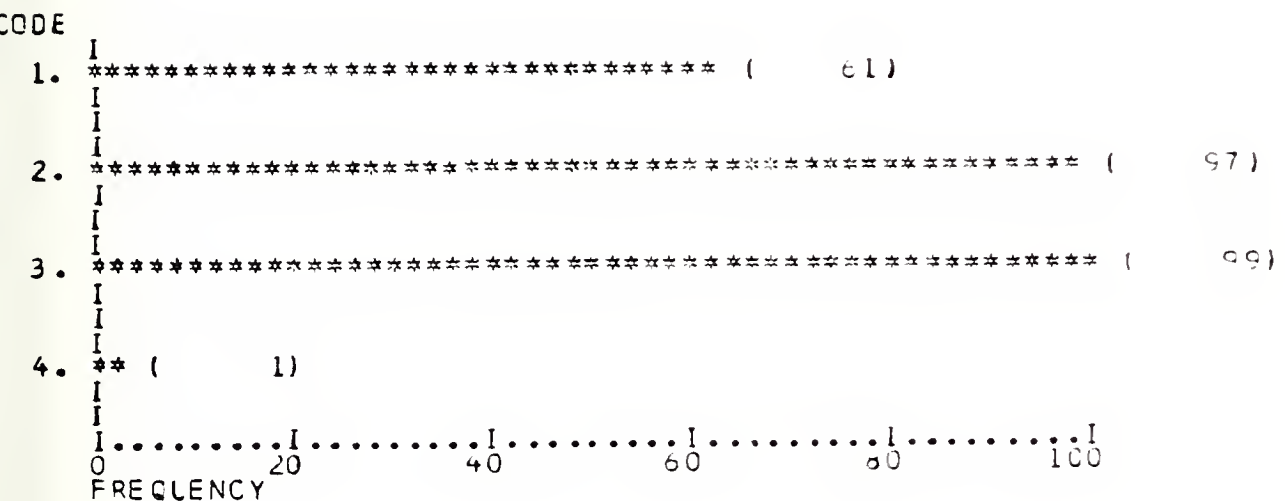


Figure 28 - RANKED PREFERENCE, SEVERANCE PAY,
TWO TIER OR SECDEF

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	207	80.2	80.2
	2.	51	19.8	100.0
	TOTAL	258	100.0	

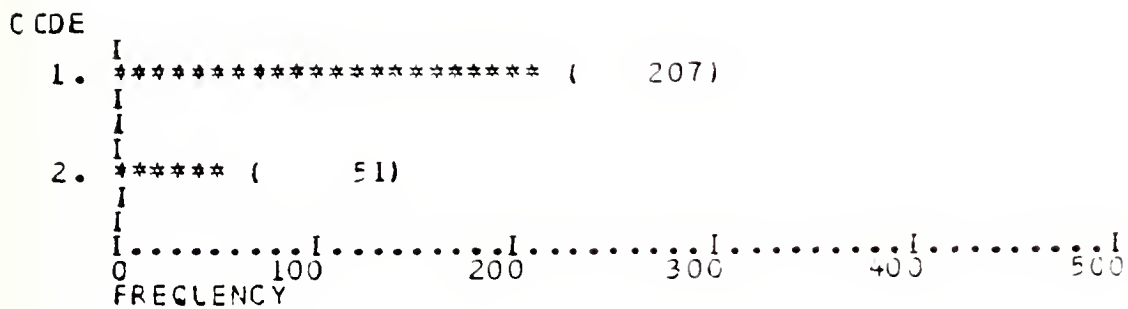


Figure 29 - RANKED PREFERENCE, BENEFITS, EXISTING SYSTEM

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	47	18.2	18.2
	2.	211	81.8	100.0
	TOTAL	258	100.0	

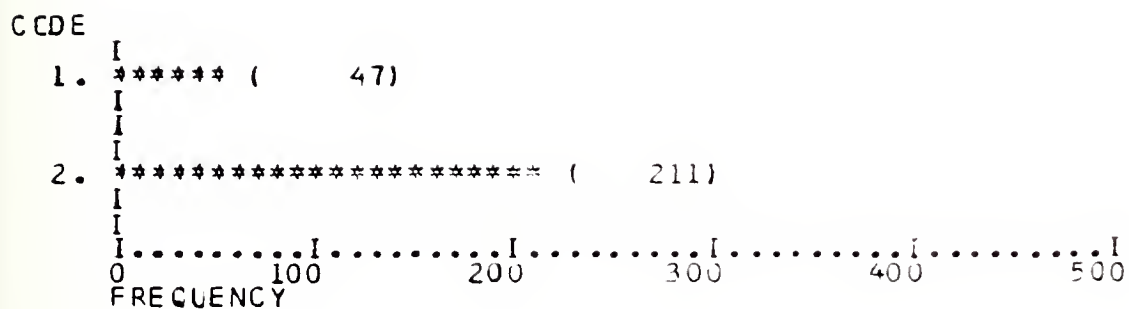


Figure 30 - RANKED PREFERENCE, BENEFITS, PCMC PLAN

CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	1.	44	17.1	17.1
	2.	91	35.3	52.3
	3.	123	47.7	100.0
	TOTAL	258	100.0	

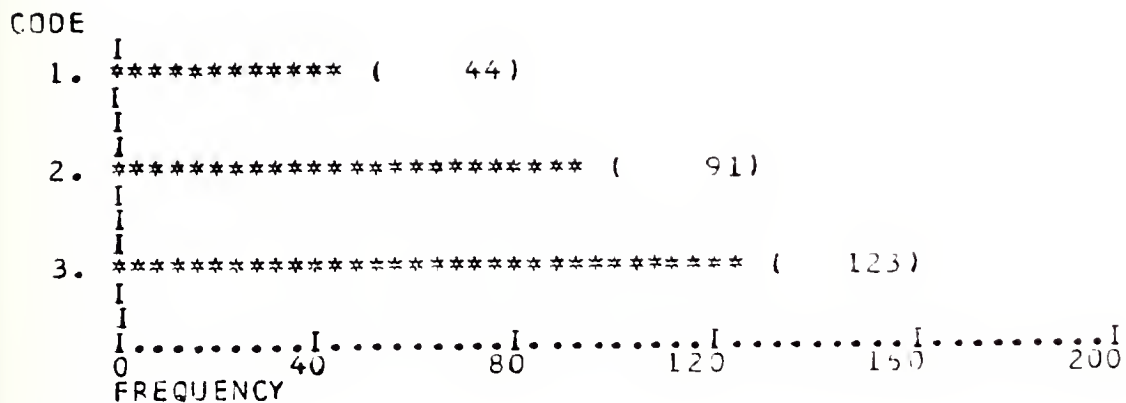


Figure 31 - RANKED PREFERENCE, GRANDFATHERING, Pcmc PLAN

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	65	25.2	25.2
	2.	122	47.3	72.5
	3.	71	27.5	100.0
	TOTAL	258	100.0	

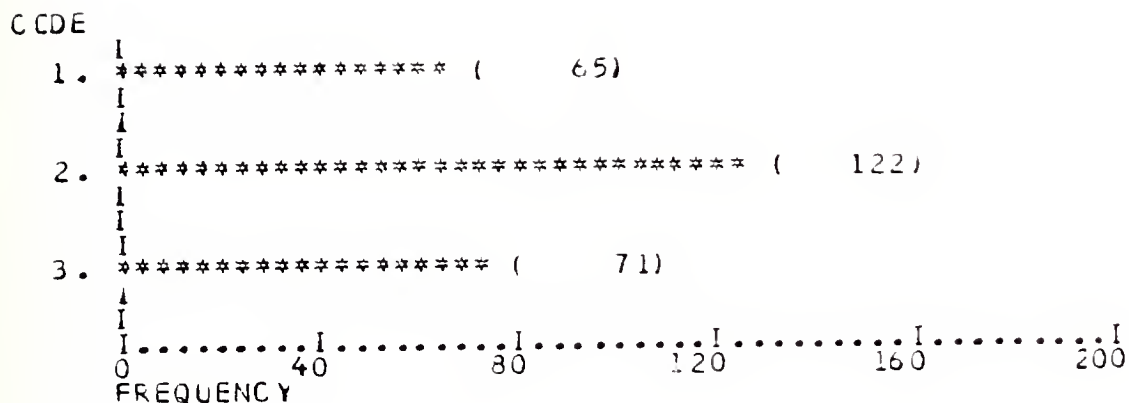


Figure 32 - RANKED PREFERENCE, GRANDFATHERING,
TWO TIER PLAN

CATEGORY LABEL	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
(RANKING)	1.	145	56.2	56.2
	2.	42	16.3	72.5
	3.	71	27.5	100.0
	TOTAL	258	100.0	

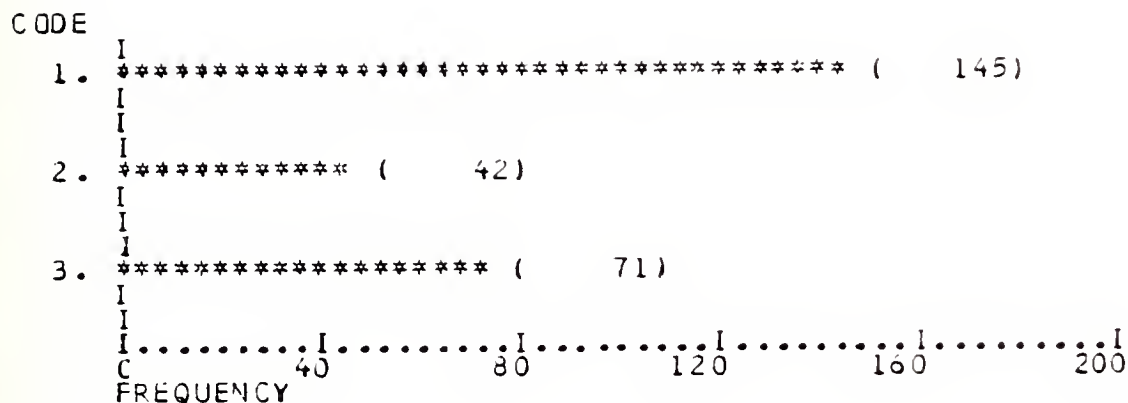


Figure 33 - RANKED PREFERENCE, GRANDFATHERING,
SECDEF PLAN

4. How Total Plans Fared in Preference

a. Relative Weighted Preference

(1) Mean Relative Weighted Preference. Chapter II (Figure 1) described how relative weighted preference was calculated from the survey responses as a measure of perceived relative merit among retirement plans. Sample mean relative weighted preferences are provided in Figure 34. Considering weight and plan fulfillment scores within characteristics, it is not surprising that, within this sample, the existing system well outdistanced the other three alternative plans in average relative weighted preference. The SECDEF plan ranked second with the Two-tier plan a close third.

(2) Testing for Significant Difference. As depicted in the ANOVA table (Figure 52 of Appendix C), the difference in mean relative weighted preference among plans was significant well beyond the .001 level. It appears the difference is coming primarily from the large difference between the existing system and the values for the other proposed systems.

<u>RETIREMENT PLAN</u>	<u>MEAN RELATIVE WEIGHTED PREFERENCE (AND STANDARD DEVIATION)</u>
Existing Plan	75.346(15.083)
PCMC Plan	53.060(16.768)
Two-Tier Plan	57.057(14.899)
SECDEF Plan	58.270(16.374)

Figure 34 - MEAN RELATIVE WEIGHTED PREFERENCE

b. Indicated Preference by Rank Order

The final survey question asked respondents to rank order their preference for each of the four displayed plans. The frequencies of their ranking are displayed in Figures 35 through 38.

It seems clear that the existing system was most favored (Figure 35) and the PCMC plan (Figure 36) the least favored, which concurs with the mean relative weighted preference values just discussed. The distribution of the rankings for the Two-tier and SECDEF plans highlights the closeness of these two plans in the sample's perception (see Figures 37 and 38). It might be presumed that the SECDEF plan is slightly favored between the two by virtue of its 3% margin over Two-tier at the number two rank cumulative frequency.



CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	2	0.8	0.8
	1.	154	59.7	60.5
	2.	39	15.1	75.6
	3.	42	16.3	91.9
	4.	21	8.1	100.0
	TOTAL	258	100.0	

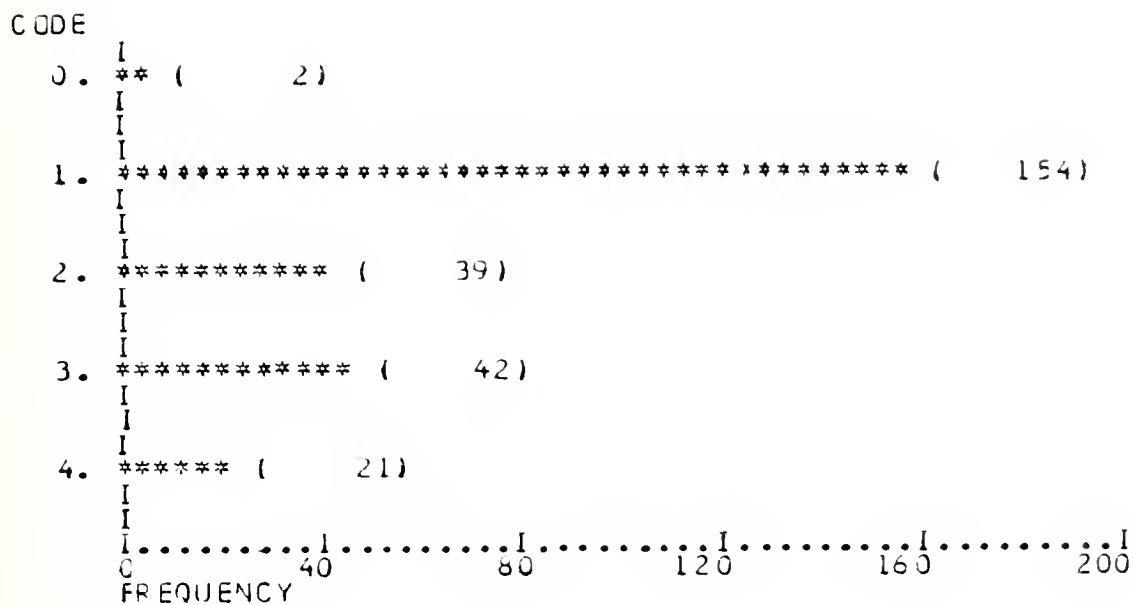


Figure 35 - INDICATED RANK PREFERENCE, EXISTING SYSTEM



CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	4	1.6	1.6
	1.	14	5.4	7.0
	2.	58	22.5	29.5
	3.	56	21.7	51.2
	4.	126	48.8	100.0
	TOTAL	258	100.0	

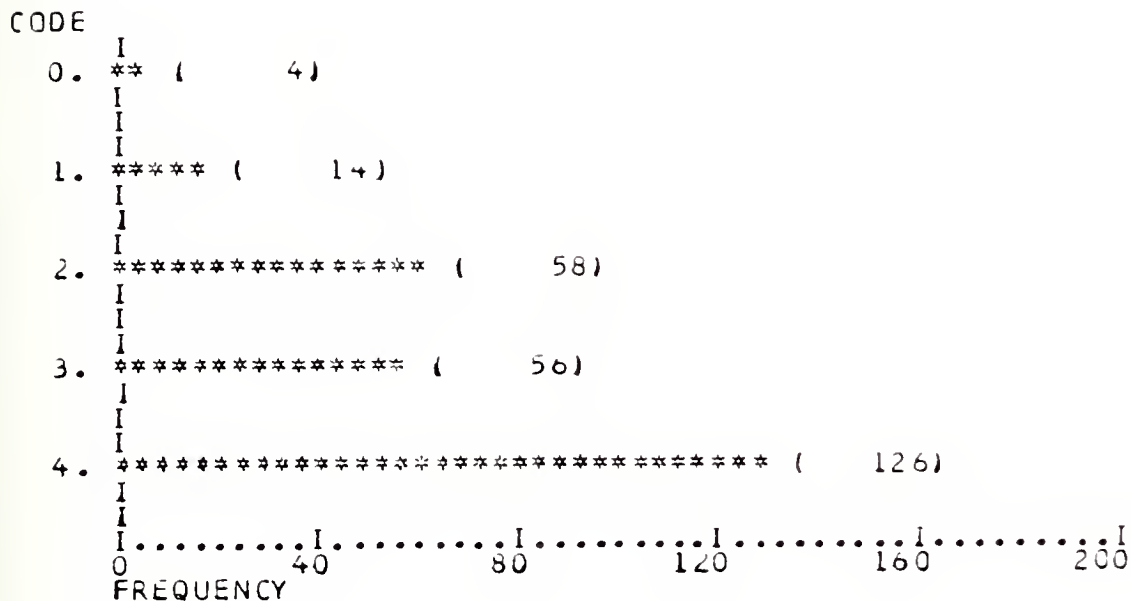


Figure 36 - INDICATED RANK PREFERENCE, PCMC PLAN



```

CODE
0. *** ( 4)
1. ***** ( 23)
2. ***** ( 89)
3. ***** ( 91)
4. ***** ( 51)
0.....I.....I.....I.....I.....I
FREQUENCY 20 40 60 80 100

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63



CATEGORY LABEL (RANKING)	CODE	ABSOLUTE FREQ	RELATIVE FREQ (PCT)	CUM FREQ (PCT)
	0.	4	1.6	1.6
	1.	59	22.9	24.4
	2.	74	28.7	53.1
	3.	50	23.3	76.4
	4.	61	23.6	100.0
	TOTAL	258	100.0	

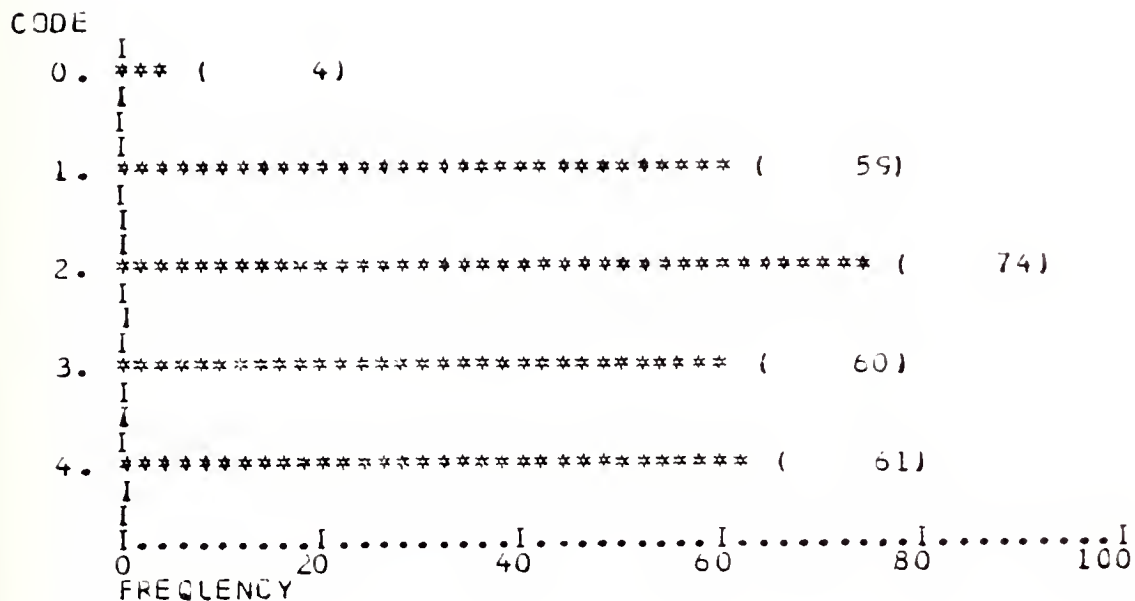


Figure 38 - INDICATED RANK PREFERENCE, SECDEF PLAN



5. Comments on Parity

In the foregoing analysis of characteristic importance, plan fulfillment of characteristics and total plan preference, it was noted that the frequencies of the rankings tended to support the average weights, scores or relative weighted preference. While this tendency was observed for the sample as a whole, individuals did not necessarily respond with parity: i.e. with scores or weights that corresponded with their rankings. Examples of such a lack of parity could be: an individual ranks early retirement as the most important (number 1) characteristic but assigns higher weight to the annuities characteristic; or a respondent ranks fulfillment of a characteristic by plans 1, 2, 3, 4 but assigns fulfillment scores of 25, 100, 50, 80 respectively.

As noted in Figure 39, this lack of parity varied from three percent of the sample for characteristic importance to 15 percent for judging how plans fulfilled the early retirement characteristic. Parity checking between indicated plan preference and relative weighted preference was not evaluated.



VARIABLES

PERCENT OF SAMPLE
NOT RESPONDING WITH PARITY

Plan Preference within the
Characteristic:

Early Retirement 15.1%

Annuities 3.5%

Vesting 12.0%

Severance Pay 6.6%

Grandfathering 7.4%

Characteristic Importance 3.1%

Figure 39 - PARITY SUMMARY



B. DATA ANALYSIS BY SUB SAMPLE

In the previous section, the perceptions of the sample as a whole were analyzed. Respondent replies were also evaluated to determine if they differed among subgroups. These subgroups were formed by breaking down the population by branch of service, rank, effect of retirement on enlistment, career intentions and years of service (YoS).

While this methodology was not necessarily appropriate for application to this sample, it is nevertheless partially presented here since it is possible it would enhance analysis of a sample representative of the entire military population by identifying different perception among subgroups.

First, average raw characteristic weights were broken down by subgroup and analyzed for the existence of any significant difference. At the .05 level it was found that mean weights for the importance of vesting differed significantly by rank and current career intentions. The weights assigned to severance pay also differed among the services. Figure 53 in Appendix C illustrates the latter breakdown and ANOVA.

Next, a similar break down was conducted for fulfillment scores within characteristics. Mean scores for 11 characteristic provisions (or 10% of the 108 tests conducted) were found to differ significantly at the .05 level among one or more subgroup. Figure 40 lists those variables. This result is probably not significant since several false rejections should be expected when a large number of tests are conducted. Figure 54 in Appendix C details the breakdown and ANOVA of



one of these set of variables (grandfathering under the SECDEF plan by YoS).

Finally, mean relative weighted preferences for all four plans were evaluated by branch, rank, etc. subgroups. Significant difference at the .05 level was found among mean relative weighted preference for the existing system, the PCMC proposal and the SECDEF plan when broken down by effect of retirement on enlistment. There also was significant difference among preferences for the existing system by rank.

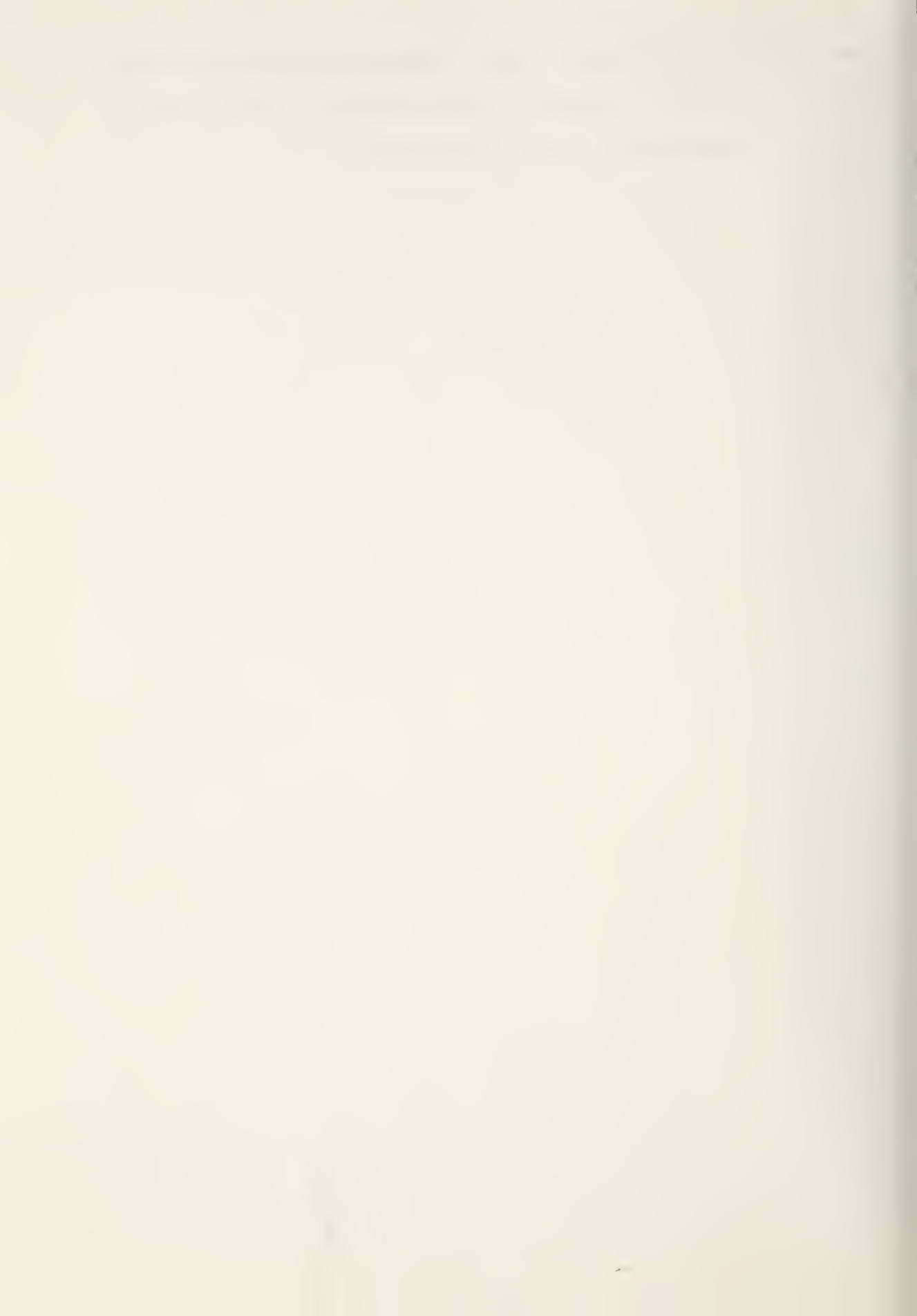
Given that differences might exist for relative weighted preference values by subgroup, it remained to evaluate if those differences resulted in a change in relative standing among alternative plans. Therefore, mean relative weighted preferences among plans was broken down by effect of retirement on enlistment and rank.

While the magnitude of the difference between weighted preference changed a bit, the overall order of plan preference did not change by effect of retirement on enlistment subgroups. In other words, each group rated the existing system the highest, SECDEF as second, Two-tier as third, and PCMC last, just as the whole sample did. See Figure 41.

When relative weighted preference was broken down by rank, two subgroups indicated a different overall preference from that of the sample as a whole. As noted in Figure 42, while all subgroups continued to indicate they favored the existing system, O-2's preferred the Two-tier to the SECDEF plan for 2nd place; and O-5's preferred the PCMC to the



Two-tier for 3rd place. This result is probably not significant, however, because of the extremely small number of 0-2's and 0-5's in those subgroups.



MEAN SCORE
FOR VARIABLE:

FOUND SIGNIFICANTLY DIFFERENT
WHEN POPULATION IS BROKEN
DOWN BY:

Early Retirement, Two-tier and SECDEF	Effect of retirement on enlistment
Annuities, Existing system	Rank Effect of retirement on enlistment Career intentions now
Annuities, PCMC plan	Effect of retirement on enlistment
Vesting, Existing system	Career intentions now
Severance Pay, Two-tier	Career intentions at enlistment
Benefits, Existing system	Rank
Grandfathering, PCMC	Rank
Grandfathering, SECDEF	Branch of service Years of service

Figure 40 - FULFILLMENT SCORES WITH SIGNIFICANTLY
DIFFERENT MEANS BY SUBGROUP



<u>EFFECT OF RETIREMENT ON ENLISTMENT (n)*</u>	<u>MEAN RELATIVE WEIGHTED PREFERENCE</u>			
	<u>EXISTING SYSTEM</u>	<u>PCMC</u>	<u>TWO-TIER</u>	<u>SECDEF</u>
Drafted, no choice (19)	75.5	51.5	55.7	57.4
No enlistment without it (22)	73.9	57.3	59.8	61.9
Significant effect (90)	76.3	53.5	57.6	57.8
Little effect (73)	82.5	44.2	53.6	53.9
No effect (52)	66.9	51.5	52.2	56.4

*two respondents failed to indicate effect

Figure 41 - RELATIVE WEIGHTED PREFERENCE BROKEN DOWN BY EFFECT
OF RETIREMENT ON ENLISTMENT



<u>RANK (n)*</u>	MEAN RELATIVE WEIGHTED PREFERENCE (RANK ORDER)			
	<u>EXISTING SYSTEM</u>	<u>PCMC</u>	<u>TWO-TIER</u>	<u>SECDEF</u>
0-2 (7)	73.2 (1)	51.8 (4)	56.9 (2)	55.3 (3)
0-3 (170)	73.6 (1)	53.5 (4)	57.7 (3)	59.4 (2)
0-4 (76)	80.8 (1)	52.3 (4)	56.0 (3)	56.5 (2)
0-5 (4)	68.4 (1)	54.1 (3)	53.8 (4)	55.5 (2)

*one respondent did not indicate his rank

Figure 42 - RELATIVE WEIGHTED PREFERENCE BROKEN DOWN BY RANK



C. CONCLUSIONS

1. Relative to Surveyed Sample

Those sampled clearly perceived "early retirement," as defined, to be the most important characteristic of a military retirement plan. The "annuities" characteristic followed closely. "Benefits" and "grandfathering" were next, with "vesting" and "severance pay" receiving the least support, respectively.

Perceived relative preference for total retirement plans clearly favored the existing system and indicated that the PCMC proposal was least liked. Between the immediately preferred Two-tier and SECDEF plans, the latter enjoyed a slight edge.

2. Relative to Objective of Thesis

The methodology employed seems to have provided a viable means of quantifying perceptions of:

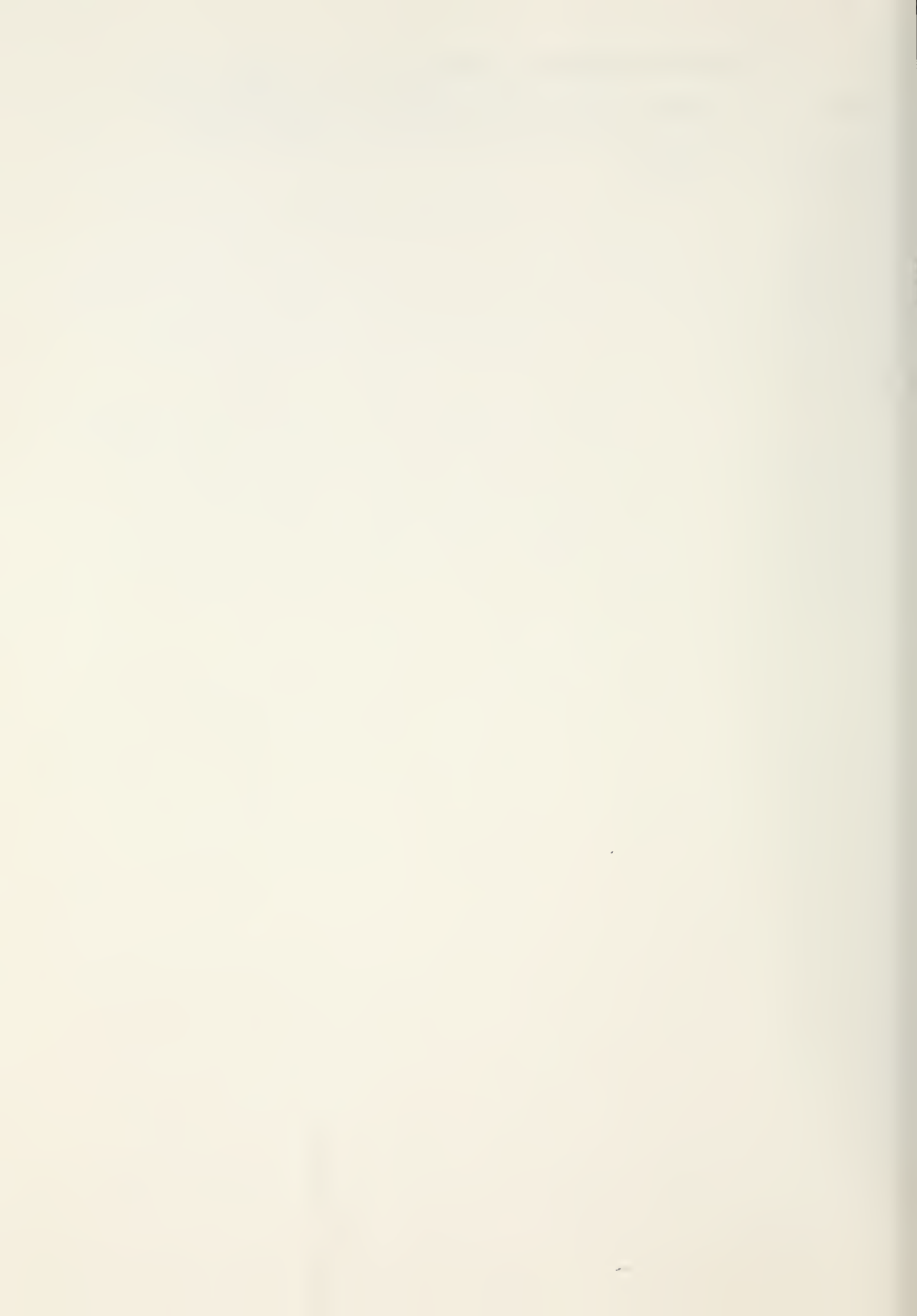
- Most favored components of military retirement systems, on a relative scale.
- Relative preference among alternative retirement plans.

D. NOTES FOR CHAPTER III

1. Numerous frequency tables and histograms displayed in various figures categorize a code 0 or no code at all. This represents the omission of a question reply on the part of one or more respondents. As noted earlier, cases were removed from the sample if score/weight values were missing. However, cases were not deleted for lack of personal data.



2. The sex breakdown reported by the sample was 3 female, 253 male, and 2 either unsure or neglecting/refusing to reply.



IV. RECOMMENDATIONS

Within the sample surveyed, the methodology provided a way to quantify military members' perceptions of the relative merit of alternative retirement plans. It seems that a similar technique could be employed to record the perceptions of a sample of the entire military population with respect to any set of alternative plans. Such an endeavor could provide information to the decision makers relevant to effectiveness analysis. Minimum steps involved in such a future effort might include:

1. Defining component characteristics common to most, if not all, of the available alternative retirement proposals.
2. Factoring each plan according to how it provides for, or fulfills, each characteristic.
3. Design and distribute to a representative sample of the military population a survey similar in structure to that shown in Appendix B, modified for the specific alternatives under consideration.
4. Collect and analyze responses.

The results could give insight into how the surveyed population and/or subgroups perceive:

- relative preference among available alternative plans
- most favored components of retirement plans in general, on a relative scale



APPENDIX A

RETIREMENT SYSTEMS

I. OVERVIEW

This appendix synthesizes research in the area of U.S. Military Non-disability Retirement. First, the evolution of the military retirement concept as perceived today will be discussed with emphasis on relevant legislation, viewing retirement as an element of the entire military compensation system, and specifics of the current retirement policy. Then the budgeting, costing and accounting of military retirement will be examined. Finally, frequently voiced opposition to existing military retirement plans will be aired and several current proposed alternatives will be presented.

II. EVOLUTION OF U.S. MILITARY COMPENSATION IN GENERAL AND RETIREMENT PAY IN PARTICULAR

Brief History of Military Retirement

(From Berkeble and Gaudi 1976, reference 3)

U.S. Military retirement practices date back to the Revolutionary War when one-half pay for life was promised to officers remaining on active duty until the end of the war. After the war, numerous retirement plans were initiated and enacted by Congress to cover various circumstances; however, none were permanent in nature, nor designed to provide more than temporary or conditional benefits.



From the period 1821-1861 there was no non-disability retirement plan in effect. Since many officers and soldiers serving on active duty could not qualify for disability retirement yet were not fit to remain on active duty, the "physical incapacity due to age" concept evolved. This served to rid the services of those personnel who had 30-50 year's of service and were simply too old to fight. Eventually, "An Act for the Better Organization of the Military Establishment" was passed in 1861 which established the "length of service" retirement and pension concept, designed to remove older personnel and make room for younger, more vigorous servicemen.

The option to retire after 30 years of active service began in 1870 and mandatory retirement for officers failing to be promoted was initiated in 1899 by the Navy. The latter "up or out" policy remains in effect today for all services, albeit with differing points of mandatory retirement, as a result of the Officer Personnel Act of 1947.

Recomputation of Retired Pay (RECOMP) was the practice whereby retired pay was linked to increases or decreases in active duty pay. If active duty members received a percentage increase in pay, retired members received the same percentage increase. RECOMP was generally in effect from 1861 until the Joint Services Pay Act of 1922, and again from 1926 through 1 June 1958 when Public Law 85-422 finally halted the practice. This constituted a significant setback to retired personnel as it effectively permitted their retired pay to be eroded by inflation.



The Uniform Services Pay Act of 1963 (Public Law 88-132) offset the 1958 Act by tying adjustments of military retired pay to changes in the Consumer Price Index (CPI).

It is noted here that military retirement affects the National Oceanic and Atmospheric Administration Corps, the Public Health Service and the Coast Guard as well as the Department of Defense.

Retirement as a Subset of the Compensation System

Any detailed discussion of retirement must recognize non-disability retirement as another element of the total compensation system which also includes (at least) Regular Military Pay (RMC, defined later), reenlistment bonuses, special hazardous duty and incentive pays, Commissary and Exchange privileges, and Medical and Dental care.

While placing "Military Compensation Change in Perspective," the Bureau of Naval Personnel (reference 4) concisely outlined the evolution of the Military Compensation System:

"To say that we in the armed forces have a comprehensive compensation system is like saying that the Constitution of the United States as it appears now would be recognizable to the Founding Fathers who drew it up. In Section 8 of Article I of that very document written nearly two centuries ago, lies the foundation of today's military compensation system: ... "To pay the debts and provide for the common defense...of the United States...To raise and support armies... To provide and maintain a navy..." From these simple,



broadly-stated phrases has grown a set of laws governing compensation for the armed forces which now fills several volumes of the United States Code and which has, in turn, been interpreted and amplified by countless court and Comptroller General's decisions occupying literally hundreds of additional volumes. Even if the resulting body of law and interpreting decisions had been designed as a single, comprehensive code for a compensation system, its sheer complexity would preclude understanding by any single individual. The fact that it evolved in piecemeal fashion as various situations arose and service conditions changed, has resulted in a wide range of pays, allowances, entitlements and related benefits not only confusing, but occasionally contradictory among themselves. The size of the forces, requirements for members possessing vastly more technical skills, and the basic characteristics of the soldiers themselves have changed; all of which have created demands for new types and philosophies of compensation."

"Except during times of mass mobilization, the army and navy were basically manned up through World War II with men who had chosen the service as a lifetime career. They were essentially "All Volunteer Forces" comprised of individuals who joined the ranks very young and remained until too enfeebled by age to continue serving. The vast majority of members, particularly in the enlisted ranks, were unmarried. They lived aboard ship or in barracks on a military reservation, most often far removed from urban population centers.



Virtually all of their needs were provided for in kind - clothing, food, medical care and even tobacco and rum. The low levels of cash pay are legendary today, and until the post World War II era were considered quite appropriate in view of the Government's virtual "cradle to grave" care for the physical needs of its fighting men."

"Adding to the problems already mentioned was the fact that each of the services was originally administered by a separate governmental department - initially the War Department for the Army and Navy Department for the Navy. In addition to responding to each need for change in its service's compensation system as an isolated event, these separate departments further compounded the problem by competing with each other in their efforts to obtain favorable action by Congress for their individual service; thus creating inequities between compensation for like work in different armed forces."

"It was in this state of disarray that the U.S. Armed Forces entered the post World War II era and the Department of Defense was founded. Confronted by innumerable problems posed by the post war era and faced with the critical obstacle posed by the service's reluctance to surrender their individuality, Defense was unable to devote much attention to modernization of pay systems. However, an attempt was made through creation of the Hook Commission in 1948 to examine the subject and make recommendations for change. Many of



the recommendations presented by the Commission were incorporated in the Career Compensation Act of 1949. This was the first attempt in the 170 year history of the United States to completely restructure the military compensation system!"

"Though the recommendations of the Hook Commission did result in some changes to the structure of the pays and allowances, such as establishment of rates for sea and certain places pay that are still in effect today, the Commission's real significance lay in the codified compensation philosophy it created. Rather than overhauling the system, the Commission formally recognized principles of compensation which had evolved over time and set down these principles as guidelines to be followed in years to come."

"While the Hook Commission recognized the continued need for other special pays and allowances as circumstances of service warranted, it based equity in compensation on four key elements: basic pay, quarters, and subsistence either in kind or cash, and a guaranteed lifetime annuity, proportionate to active duty basic pay, in retirement. Several other studies were made of the military compensation system over the following two decades, and various modifications to other special pays and allowances resulted. However, the four key elements of the system were retained, virtually unchanged, except for occasional upward adjustments to reflect the growing affluence of America in the Cold War era. While these cornerstones of our compensation system went



essentially unchanged, almost imperceptible changes were occurring in the characteristics of the service member population; changes which would become dramatically apparent in the early 1960's and which virtually demanded a total overhaul of the entire compensation system."

"The circumstances of World War II, Korea and the continuing tensions of a Cold War required maintenance of larger standing forces over a sustained period than ever before in our history. Many members who would not normally have selected a service career found that they had inadvertently become careerists. However, unlike previous careerists, they basically considered themselves civilians on extended duty. They were willing to serve, but no longer content to receive compensation lower than they felt they could receive in other compensation fields for similar work. At the same time, these members came to look upon twenty years of military service as a normal first career, and the 50% of basic pay retired annuity as a handsome second career supplement."

"The results of these changes in viewpoint among servicemen were just becoming recognizable when the country became involved in the Southeast Asia conflict. Concerned by statistical evidence that the increasing retirement rolls were going to create staggering retired pay obligations in a few years, but equally attuned to the need for full and fair compensation for servicemen involved in the now unpopular "Vietnam Conflict," Congress took two important steps in the mid-sixties."



"The first Congressional action occurred in 1967 with the passage of Public Law 90-207. In this landmark piece of legislation, the military equivalent of the civilian salary was defined as the sum of basic pay, the cash values of the allowances for quarters and subsistence and the tax advantage created by the non-taxable status of the two allowances. This military equivalent of the salary was given the name Regular Military Compensation (RMC), a term and definition still generally recognized and accepted today. A second key feature of PL 90-207 was the provision for automatic increases in the basic pay portion of RMC whenever a raise was granted General Schedule Federal employees; the amount of the military raise being equal to the average GS raise, but applied only to the basic pay rather than equally distributed among the RMC elements."

"The second Congressional action was begun prior to passage of PL90-207, however, its results were not reported until later. This was the First Quadrennial Review of Military Compensation (QRMC) undertaken in 1966 at Congress' direction. The findings of this comprehensive review headed by RADM Lester Hubbell, USN and often referred to as the "Hubbell Study," were released in late 1966. This study, conducted in the draft environment of the Vietnam era, resulted in recommendations for differing compensation

Appendix A



policies for "non-careerists"¹ and "careerists". For the "non-careerists" the First QRMC recommended retention of the existing pay and allowances system, but for the "careerists" an extensive series of changes in method of compensation was proposed. Although these recommendations for change in career military pay philosophy were never acted upon at that time due to the desire to move toward an All Volunteer Force, they still set the course for ultimate change in years to come, and directly or indirectly, have served as the basis for all changes in compensation instituted since 1968."

"The five-volume report of the First QRMC made four basic findings relative to the adequacy of the present compensation system: 1) it is too complex and confusing; 2) it does not reward equitably for equal work; 3) it cannot be compared and adjusted equitably in relation to trends in civilian earnings; and 4) its retirement provisions provide neither management effectiveness for the Government nor equity to the member. Although the First QRMC made a total of 31 specific recommendations for changes in active duty compensation and 45 others affecting retirement and survivors' benefits, all 76 can be said to flow from the above four generalized findings."

"In essence, for the active duty careerists, the study observed that the array of twenty-six separate pays,

¹Non-careerists were defined as all E-1's through E-3's and those E-4's and E-5's having less than 2 years' service or less than a total commitment for six years.



allowances, benefits and associated costs existing at that time made it virtually impossible for an individual to compute the value of his compensation. For this reason it was concluded that the Government was not realizing the full attraction and retention benefit from its dollars spent in military compensation. Further, it was observed, the variances in pay caused by differing treatment of married and single members caused inequities in compensation for members performing identical tasks. An even greater problem was posed by the lack of a universally recognized pay standard which could be used by both the Government and the serviceman in determining comparability of pay with the civilian sector. Finally, it was determined that the current retirement system tended to hold down active duty pay scales for all, even though only careerists ever benefitted from it; provided too great an incentive to terminate a career after only 20 years; did not adequately reward a member for completing a full career; and unduly compensated the retiree through payment of two unrelated annuities for the same period of service once Social Security eligible."

"To provide corrective action in response to each of these ills, the First QRMC made two general recommendations regarding active duty pay for careerists and a series of interrelated recommendations for retirement system change. In the area of active duty pay it was recommended 1) that all careerists be paid a single, fully taxable salary



equivalent to the value of RMC plus an imputed retirement contribution, irrespective of dependency status; and 2) that a standard for pay comparability with the civilian sector be attained through linkage to the General Schedule and Wage Board Federal pay scales."

"The recommendations in the area of retired pay were strikingly similar to the provisions of the Retirement Modernization Act subsequently developed and sent to Congress as an OSD legislative proposal. The basic features called for vesting of the retirement contributions of members, to be returned if the member should leave service prior to retirement; an increasing retirement annuity multiplier for service beyond 20 years; calculation of retired annuity on the basis of the "high one year" average salary rather than on the terminal active duty salary; and finally, an offset in the Social Security annuity based upon the proportion of that annuity attributable to military service."

"In addition to recommendations in the areas of active and retired pay, the First QRMC also proposed a variety of other actions designed to ensure that "pay distinctions other than those in the salary table are justified within the military career force only 1) to meet hard retention or manning requirements, 2) to secure the requisite number of volunteers for special duties, or 3) compensate for unusually arduous or dangerous conditions of service."²

²Finding 18, Report of the First Quadrennial Review of Military Compensation, Volume I, 1 Nov. 67.



"To bring special pays, allowances and benefits retained in addition to the "military salary" into line with the above three guidelines, the study recommended:

- 1) Operation of commissaries and exchanges at no cost to the government.
- 2) Elimination of the normal reenlistment bonus.
- 3) Discontinuance of Government payment for FHA mortgage insurance premiums for military members.
- 4) Modifications to the VRB program.
- 5) Examination of the adequacy and continued need for the various special hazardous duty and incentive pays."

"As anyone familiar with recent or proposed changes in the field of military compensation will readily recognize, the recommendations of the First QPMC, though never acted upon collectively, have provided the basis for virtually all compensation policy changes since 1970. Closer examination reveals that a move toward the recommended salary system has even occurred with the passage of Public Law 93-419 in September 1974. This law modifies the automatic raise provision of PL90-207 to provide for an across-the-board raise in basic pay and allowances for quarters and subsistence, rather than in basic pay only, thereby further establishing the military equivalent of the salary. This, of course, has been modified by the reallocations of basic pay raises to BAQ over the past two years."

"It is quite understandable how any one of the recent changes in the military compensation system, when viewed singly, can be considered as an "erosion of benefits" or



a "breach of faith." When viewed collectively, however, it becomes apparent that they are piecemeal attempts to achieve a specific objective: creation of a comprehensive compensation system for the military which ensures just and equitable compensation for the member in the most efficient and effective manner for the Government. Efficiency and effectiveness in this context mean not only cost consciousness, but also competitiveness with other employers vying for the skills of the member. Naturally, cost savings must be made wherever possible in order to free budgeted funds for use in potentially more critical areas; however, such savings are a byproduct of a modernized pay system rather than an objective in themselves."

"The Third Quadrennial Review of Military Compensation (QRMC) in 1975 again attempted to review the entire spectrum of military compensation with a view toward devising a comprehensive system attuned to the needs of both the service member and the Government in the environment of an All Volunteer Force."

"The recommendations of the Third QRMC, although not acted upon directly, were referred to the recently-completed President's Commission on Military Compensation (PCMC) for further review. The PCMC was charged by the President to review not only the recommendations of the Third QRMC, but also the findings and opinions of the Defense Manpower Commission and various other bodies and agencies such as the Congressional Budget Office and General Accounting Office.



In addition to reviewing these prior studies, the PCMC also held extensive hearings to solicit the views of individual service members, both military and civilian service leadership."

"The report of the PMCM, issued in April 1978 contains far-reaching recommendations for redesign of the military compensation system. Many of these recommendations were drawn from prior studies, but some are original PCMC concepts." (Those PCMC recommendations dealing with retirement are addressed in section IV.)

Current Retirement Policy

The basic "features" of the existing military retirement scheme are outlined in Figure 43 to facilitate later comparison with alternative plans. Briefly, with some variations by service, military people can retire after 20 years of service (as a privilege rather than a legal right, although members do have the "right" to retire after 30 years). The amount of retirement pay received depends upon rank and time in service (and in the long run: time of retirement and how long one lives following retirement. See section III for details of costing).

For every year of service, one accumulates $2\frac{1}{2}$ percentage points towards one's "multiplier" - the percentage of basic pay received when one retires. This simple calculation is complicated by the retired pay "inversion," the situation arising from inflation triggering larger increases in retired pay than might be granted for active duty pay and



culminating in some people making more retired pay than others (with the same grade and service) who retired later. Before 1958, "RECOMP" tied retired pay to current active duty pay and inversion was averted. Nevertheless, Congress has provided two "save pay" provisions to counter the inversion. The first permits the use of the basic pay scales in effect on the day you retire or the previous year's scales as adjusted by the CPI. (i.e., if the last active duty pay raise was 5% and retirees had just received an 5% CPI adjustment, it would be more advantageous to use the previous year's pay scales). The second - the Tower amendment or "look back" - provides that no member who retired since 1 January 1971 can receive less retired pay than he/she would have received had he/she retired earlier in his/her career (i.e., one can look back to any point in one's career when eligible to retire and calculate retirement pay as if one had retired then).

Retirement pay is increased by law on 1 March and 1 September based on CPI changes from the previous June - December and December - June periods respectively.

Unless a retiree declines coverage, a deduction for the Survivors Benefit Plan (SBP - to provide an income of up to 55% of ones retired pay for spouse and dependent children if one dies after retirement) will be made from retirement pay automatically.



III. BUDGETING, ACCOUNTING AND COSTING FOR MILITARY RETIREMENT

Military Retired pay is authorized annually by Congress in the DOD Appropriations bill. For example, the 1978 appropriation was \$9,010,000,000 for "Retired Pay, Defense," under Title II of the act.

Unlike most other DOD appropriations, Retired Pay Defense is not programmed in the Five Year Defense Plan (FYDP). Due to retired pay's (short run) non-discretionary nature, it would serve no purpose to structure it under a management tool such as the FYDP. Therefore, retired pay has no program relationship in the programming/budgeting process.

The amount annually budgeted for retirement pay is based now solely on projected outlay to retirees. It is a straightforward calculation with numbers of retirees as the prime variable. The Director of Military Personnel for the Deputy Comptroller for Programming/Budgeting in the Office of the Assistant Secretary of Defense (Comptroller) is responsible for initial submission of the retired budget figures for all services; his calculations are based simply on:

- Projections of the retired roles
- Past cost experience
- Anticipated changes in the CPI

DOD has, however, proposed to change retirement budgeting¹

¹If enacted, this proposal would not alter retirement entitlements. Nor does the referenced 'trust fund' have any relation to the trust fund noted in part IV as part of the PCMC recommendations.



to an "accrual" system. Rather than the current pay-as-you-go system, the plan would provide for a trust fund to eliminate the growing unfunded liability (given a future rate of inflation and interest, the fund would pay future annuities). While DOD would still maintain responsibility for administration, payment and support of retirees, the retired pay account would be displayed under another budget function -- the income security function.² Thus Congress would be asked to make two annual retirement appropriations -- one to cover retirement outlays during that year (i.e., \$10.1B in FY 1979) and another for future retirement costs of people on active duty (about \$7.5B annually to be charged to the defense budget). While \$18B might frighten some lawmakers, others argue that retirement costs are more accurately reflected under the accrual concept and therefore anticipated more precisely.

Cost calculation for the accrual system is accomplished by dividing the present value of active duty pay by the present value of retirement benefits to obtain the percentage used to calculate the liability.

While this accounting/budgeting proposal is not actually connected to any of the current proposals for changing the form of military retirement, it is anticipated that it will become entangled in the whole retirement issue and not be acted on separately.

²Again, do not confuse this with a 1975 bill that proposed moving the Defense Retired Pay appropriation out of the defense function (presumably to the income security function).



Thus we see retirement budgeting as a centralized DOD function and retirement accounting as currently failing to recognize a significant accrued liability.

Costing

Projecting the future annual costs of military retirement is relatively easy (or at least conceptually simple) given force level profiles. Actuarial "rain dances" are effected by the Assistant Secretary of Defense (Military, Reserve Affairs and Logistics) assuming the number of retirees, when they should die, CPI changes, etc., and generally undisputed figures are arrived at. For example, as of December 1977 the total life time retired pay was estimated by DOD to be:

<u>Amount</u>	<u>for</u>	<u>Pay Grade</u>	<u>with</u>	<u>Years Service</u>	<u>Retired At</u>
\$464,115		O5		25	Summer 77
183,900		E7		20	Summer 77

(Reference 10)

Disagreement in cost estimates arises when one attempts to calculate the present value of future payments. Selection of a discount rate then becomes an issue not likely to be settled easily.

Further complications arise when one considers that changing retirement policy may very likely sensitize recruitment and retention success -- cornerstone objectives of the compensation system itself and variables previously assumed to be constant.



Costing orientation would also change if the accrual budgeting concept discussed earlier were to be adopted. For example, according to DOD, under the current pay-as-you-go system, major changes to the retirement system would not show any savings for many years and would cost more initially. RMA (see section IV) would increase retirement cost by \$50 - \$150M annually for a few years before beginning to show savings. However, the proposed (accrual) budgetary change would result in an immediate decrease of over \$500M. (Reference 6).

In summary, costing military retirement can be viewed as a relatively simple mechanical process under static conditions or a very complex, dynamic and multivariate relationship involving a great deal of uncertainty.

IV. CRITICS AND ALTERNATIVES

System Criticism

Criticism of current military retirement pay comes from all levels. The 1st QPMC (see section II) made sixteen findings concerning non-disability retirement, not the least of which was its expensiveness and inefficiency. Most important, retired disbursements were seen increasing at a more rapid rate than GNP. Finally, efficiency was reported low as measured by the equation: "(system fails to meet objective¹ effectively) ÷ (High Cost)"

¹Briefly, QPMC's retirement objectives dealt with "management effectiveness" and "just treatment of members."



Accordingly, if an alternative system could shown significantly lower costs and at the same time promise more effectiveness, it would be more efficient than the present system.

The Congressional Budget Office projects retirement costs under the current system to be \$12.8B by 1981, a 33% increase over the 1978 appropriation (reference 5). The PCMC estimates pensions will cost \$30B annually within the next 20 years and terms the military retirement system "inefficient," "inequitable" and obviously too expensive. (Reference 12).

President Carter is concerned about rising costs and especially dual compensation. "...its too expensive... 'double dipping'. I think it ought to be eliminated." (Reference 13)

DOD has stated the present system does not meet its needs. "The current retirement system requires a restructuring to correct personnel management, equity and cost deficiencies," (Reference 7). Secretary of Defense Harold Brown favors ending the present 20 year system. "I think we ought to go to a more flexible system, (rather than) a system where you don't get anything until you've been in 20 years" (Reference 8).

Change to the existing retirement system seems inevitable. The unanswered questions are when and how.

Alternatives

This subsection outlines some of the retirement options or alternative schemes recently proposed and/or considered.

Appendix A



To facilitate comparison among alternatives and with the existing system, the details of all alternatives are displayed in Figures 43 through 49.

RMA was a DOD proposal submitted as legislation earlier this decade. It has not been resubmitted as of late and is considered "scrapped."

The Defense Manpower Commission (DMC) recommended general concepts but no specific action or legislation.

The PCMC recommendations on retirement are the latest "blue ribbon" input generated external to DOD, with the "Two-tier" plan and "Early Withdrawal" alternative following in reactionary fashion as intermediate attempts within DOD to counter the PCMC plan. The "SECDEF" plan is the proposal submitted by Secretary of Defense Brown to President Carter in late 1978, (References 9, 11).

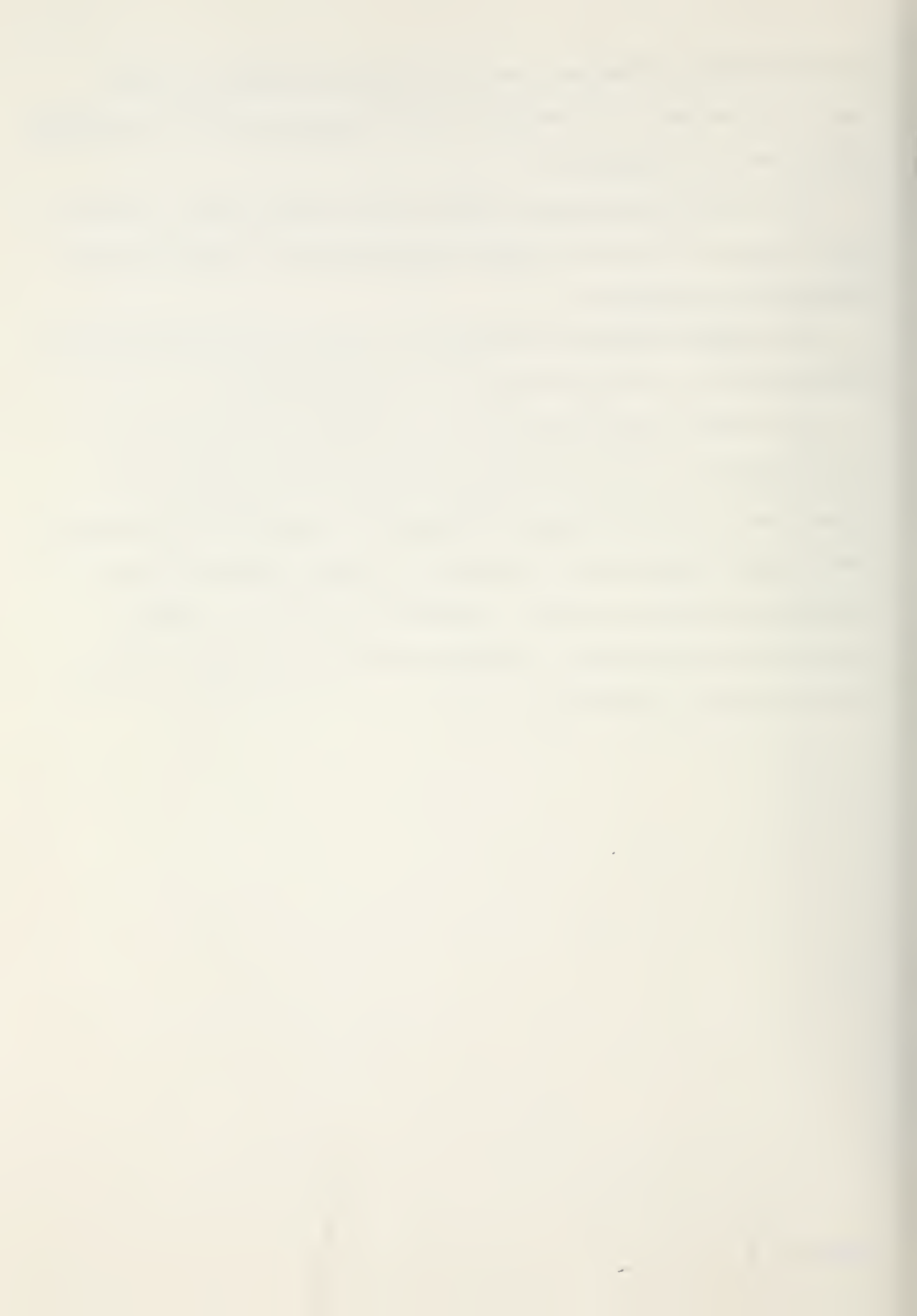


Figure 43

Comparison of Alternative Retirement Plans

Note: All systems are non-contributory and provide for retirement pay raises based on changes in the CPI (if plan addresses that subject)

Existing System

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	The magic number is 20 years of service.
Retirement eligibility, Annuities	Immediate Annuities available after 20 years service. Retired pay equals 50% of final base pay at 20 years, this multiplier increases by 2.5% per year of service to maximum of 75% for 30 years.
Severance Pay	Enlisted and officers leaving voluntarily get nothing but final paycheck if they leave service before 20 years. Involuntarily separated officers with at least 5 years service may qualify for up to \$15,000 severance pay. Officers leaving after 20 years get no severance pay.
Vesting (way a member can buildup a stake in his retirement benefits which he can collect on separation with less than 20 years service)	No vesting, however, once 20 years service attained, all benefits to which entitled at 30 years are claimed (except for lower amount of retired pay).
Social Security	No offset. When retiree reaches the age to draw S.S. benefits, they do not affect his retired pay.

Appendix A



Dual Compensation

No restriction on amount of retired pay and civil service benefits one can receive except for regular officers, who must give up some of their retired pay (they receive \$3662 of their retired pay plus $\frac{1}{2}$ of the remainder).

"Benefits" (medical care, exchange and commissary privileges)

Immediate eligibility to persons retiring with 20 or more years service.

"Grandfathering"

NA



Figure 44

Comparison of Alternative Retirement Plans

Retirement Modernization Act (RMA)

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	Developed by DOD in early 1970's submitted to 94th Congress; no action taken, not resubmitted since.
Retirement eligibility, Annuities	Receivable after 20 years service. Multiplier is 2.5% per year for 20-24 years and 3% for 25-30 years service to a maximum of 78% of HIGH 1 (last or highest years <u>average</u> base pay). Retiring before 30 years service reduces multiplier by 15% until one reaches time at which one would have reached 30 years service.
Severance Pay	Involuntary separation: immediate cash payment plus an annuity at age 60 with an option of collecting a double cash payment in lieu of the deferred annuity. Cash payment would be 5% of pay times number of years served. Possible to collect more than \$15,000.
Vesting	VESTING - would provide those who left the service with between 10-19 years with an annuity at age 60 based on number of years served.
Social Security	OFFSET: at age 65, reduction in retired pay to equal 50% of S.S. benefit attributable to military service.
Dual Compensation	NA
"Benefits"	Presumed same as current policy.
Appendix A	



"Grandfathering"

20 year transition period;

- if on active duty when RMA passed, temporary reduction will be less than 15% (if you have 20 years, you wouldn't be affected).
- S.S. offset lowered (years service @ enactment \div years service @ retirement \times 50%).



Figure 45

Comparison of Alternative Retirement Plans

Defense Manpower Commission (DMC)

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	The Congressionally formed DMC recommended general concepts only after RMA had been sent to Congress. Its conclusion was basically that RMA was not the answer to the retirement problem.
Retirement eligibility, Annuities	Retirement eligibility was based on acquiring 30 points (1 pt/yr in non-combat job; 1.5 points/year in combat job). Retired pay based on average yearly pay for high 3 years (HIGH 3). 30 points would result in 80% of high 3 upon retirement at 30 years service. Retirement before 30 years service (but with 30 points) would result in a permanent retired pay reduction (determined actuarially).
Severance Pay	Those involuntarily separated after 10 years service would be paid a lump sum readjustment pay plus an annuity deferred until age 65.
Vesting	VESTING after 10 years service: voluntary separation would yield deferred annuity payable at age 65.
Social Security	No OFFSET
Dual Compensation	NA
"Benefits"	NA
"Grandfathering"	NA



Figure 46

Comparison of Alternative Retirement Plans

President's Commission on Military Compensation (PCMC)

<u>Features/Issues</u>	<u>Provisions</u>																		
Source, Comments	<p>April 1978 - Most significant recommendations dealt with retirement.</p> <p>OBJECTIVES: (1) Give people something when they separate early, particularly when they separate voluntarily.</p> <p>(2) Reduce temptation to retire after 20 years.</p> <p>(3) Encourage service until 30 years, or close to 30 years.</p> <p>"<u>TRUST FUND</u>" Plan: replaces immediate annuities at 20 years with an old age annuity and a government paid trust account. Navy initially supports this concept because it encourages people to stay in beyond initial obligation when their costly skills are in high demand.</p>																		
Retirement eligibility, Annuities	<p>Old age annuities:</p> <table> <tr> <th style="text-align: left;"><u>Yrs. Service</u></th><th style="text-align: left;"><u>Receive Retired Annuities at Age</u></th></tr> <tr> <td>10-19 yrs.</td><td>62</td></tr> <tr> <td>20-29 yrs.</td><td>60</td></tr> <tr> <td>30 or more yrs.</td><td>55</td></tr> </table> <p>Amount of annuity is based on highest 3 years of base pay:</p> <table> <tr> <th style="text-align: left;"><u>Yrs. Service</u></th><th style="text-align: left;"><u>% of HIGH 3 Average</u></th></tr> <tr> <td>20 yrs.</td><td>48.75%</td></tr> <tr> <td>25 yrs.</td><td>62.5</td></tr> <tr> <td>30 yrs.</td><td>76.25</td></tr> <tr> <td>35 yrs.</td><td>90.0</td></tr> </table>	<u>Yrs. Service</u>	<u>Receive Retired Annuities at Age</u>	10-19 yrs.	62	20-29 yrs.	60	30 or more yrs.	55	<u>Yrs. Service</u>	<u>% of HIGH 3 Average</u>	20 yrs.	48.75%	25 yrs.	62.5	30 yrs.	76.25	35 yrs.	90.0
<u>Yrs. Service</u>	<u>Receive Retired Annuities at Age</u>																		
10-19 yrs.	62																		
20-29 yrs.	60																		
30 or more yrs.	55																		
<u>Yrs. Service</u>	<u>% of HIGH 3 Average</u>																		
20 yrs.	48.75%																		
25 yrs.	62.5																		
30 yrs.	76.25																		
35 yrs.	90.0																		



Severance Pay

Involuntary separation pays:

5-10 yrs. service: $\frac{1}{4}$ of 1 mo. base pay/yr. service

10-30 yrs. service: $\frac{1}{2}$ of 1 mo. base pay/yr. service

(max. in all cases is 1 yr. base pay; those eligible for immediate annuity get nothing.)

Vesting

"Deferred Compensation" trust fund set up after 5 yrs. service. This vested amount would be payable at 10 or more yrs. service: could be with-drawn in part while in service or let ride and increase. On separation, could collect all the money or draw monthly or annual payments. If die before collection, it goes to estate.

Trust Fund Accumulation

<u>Yrs. Service</u>	<u>% of Base Pay</u>
6-11	20%
11-20	25%
21-25	15%
25-30	5%

Social Security

OFFSET: Retirement pay reduced as a retiree qualified for S.S. payments.

Dual Compensation

People working for the federal civil service could not collect old age annuity. Former service time counts towards civil service retirement and vice versa. Those qualified for military and civil service retirement may choose most profitable annuity.

"Benefits"

If leave service with:

less than 15 yrs: never eligible

15-24 yrs: eligible at 60 or 62

25 yrs. or more: eligible immediately

"Grandfathering"

Any member with 4 or more years of service when the new rules took effect would remain under the old retirement system.



Figure 47

Comparison of Alternative Retirement Plans

Two-Tier (or 2 Step) Plan

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	Similar to RMA, Army and Air Force support this alternative because they feel 20 yrs. retirement is needed to preclude losing too many members between 10-20 yrs. Not as flexible as Trust Funds but more easily understood.
Retirement eligibility, Annuities	20 yr. retirement but payments between 20 yr. service and old age are smaller than current system. 2 Levels of Retirement Payment (based on HIGH 2): <u>1st Tier Annuities</u> : Immediately eligible after 20 yrs. service (enlisted annuities range from \$285-\$385/mo. with current scales) (compared with \$480/mo. under the existing system). <u>2nd Tier Annuities</u> : Full annuities to be received at old age (60). Multiplier would be same as "Trust Fund" but capped at 30 yrs.
Severance Pay	Both Two Tier and Early Withdrawal would be generally comparable to the PCMC (Trust Fund), with Two Tier tending to be higher in value of severance pay than either Early Withdrawal or the Trust Fund; although severance is not "directly addressed" by their current alternatives.
Vesting	VESTING for those who leave service between their 10-20th year in old age annuity.
Social Security	OFFSET: Same as for PCMC.
Dual Compensation	Not dealt with but assumed solved by new \$47K ceiling on civil service pay.

Appendix A



"Benefits"	Those with 20 years service are eligible. Less than 20 years service: not eligible.
"Grandfathering"	Grandfathering for all on active duty.



Figure 48

Comparison of Alternative Retirement Plans

Early Withdrawal Plan

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	Compromise (between Trust Fund and Two Tier) developed by services. Two Step System also with members between 10-20 years service being allowed to make early withdrawals from their first tier annuities. An attempt to keep 20 year annuity and still give member some vested right in that annuity before 20 years.
Retirement eligibility, Annuities	Same as Two Tier; however, members between 10-20 years service can make early withdrawals from amounts credited to their first tier annuities. (Any payments made would be deducted from future annuities).
Severance Pay	Both Two Tier and Early Withdrawal would be generally comparable to the PCMC (Trust Fund), with Two Tier tending to be higher in value of severance pay than either Early Withdrawal or the Trust Fund; although severance is not "directly addressed" by their current alternatives.
Vesting	Same as Two Tier except rather than a trust fund, amounts are credited to first term annuities. Members leaving between 10-20 yrs. will receive a portion of their first term annuities (early withdrawal) in addition to old age vesting.
Social Security	OFFSET: Same as for PCMC.
Dual Compensation	Not dealt with but assumed solved by new \$47K ceiling on civil service pay.
"Benefits"	Those with 20 years service are eligible. Less than 20 years service; not eligible.
"Grandfathering"	Grandfathering for all on active duty.
Appendix A	

Figure 49

Comparison of Alternative Retirement Plans

SECDEF Plan

<u>Features/Issues</u>	<u>Provisions</u>
Source, Comments	Secretary Brown's compromise among numerous proposals developed by PCMC, the services and the JCS. Primary features: (1) would give members more than they receive now for leaving short of 20 yrs. (2) reduce lifetime retirement earnings by about \$50K (enlisted) and \$80K (officer) for those leaving with just 20 years service and, (3) makes it more profitable to stay for 30 years than retire earlier. (Reference 9)
Retirement eligibility, Annuities	<p>Also a 2 step plan with eligibility for 1st tier at 20 yrs, 2nd tier at age 60. First tier annuities would range from 37.5% of base pay (20 yrs.) to 62.5% (30 yrs.). Second tier payments would range from 48.5% (20 yrs.) to 76.25% (30 yrs.). The specific multiplier proposed, based on the high two years of base pay is:</p> <p>First tier - Paid from Retirement until age 60</p> <p>Years 1 to 10: 1.75% times YOS Years 11 to 20: 2.00% times YOS Years 21 to 30: 2.5% times YOS</p> <p>Second Tier: Paid beginning at age 60.</p> <p>Years 1 to 5: 2.00 % times YOS Years 6 to 10: 2.25% times YOS Years 11 to 30: 2.75% times YOS</p>
Severance Pay	To be paid to enlisted as well as officers involuntarily separated with 5-19 YOS. No formula proposed yet.

Vesting	<p>Yes. With 10 YOS, member can withdraw funds credited to future retirement, while on active duty but receive less retired pay later. Can leave service short of 20 YOS with annuities at age 60. The specific options include:</p> <p>Qualify at 10 YOS for either old-age annuity or early-withdrawal cash. Annuity would begin at age 60 based on YOS under second tier formula <u>or</u>: Early withdrawal cash available after 10 YOS based on one month's basic pay for YOS 1 to 10 and two months' basic pay for YOS 11 to 15.</p>
Social Security	<p>OFFSET: Annuity partially reduced when retiree becomes eligible for Social Security. No formula proposed yet.</p>
Dual Compensation	<p>Presumable same as Two-tier.</p>
"Benefits"	<p>Not addressed</p>
"Grandfathering"	<p>Can stay with existing system <u>or</u> switch to new plan with 4 YOS additional obligation.</p>

APPENDIX B

The Survey

MILITARY RETIREMENT PLANS

Opinion Survey

Naval Postgraduate School, March 1979

When Completed, Please Return to SMC 1733



I. INTRODUCTION

A. OBJECTIVE

This survey will contribute to thesis research involving the perceived effectiveness of various Military Retirement Plans.

B. WHAT IS EFFECTIVENESS?

For the purposes of this survey, "effectiveness" is simply what you think is best for you and the service. As you answer the questions on the following pages, please consider not only what would be to your own advantage, but also what would be best for your service or the U.S. Military in general.

"Effectiveness" as it relates to Military Retirement can be defined in two areas:

1. management effectiveness

- attracting and retaining the kinds and numbers of qualified members required and

- providing a socially acceptable method of removing some members who must be separated to insure the maintenance of a young and vigorous force.

2. just treatment of the member

• providing, after many years of faithful service, some degree of financial security that is understood and assured.

C. METHODOLOGY

First, you will be asked some questions about yourself so your replies can be analyzed by category of respondent.

Second, we will define six general characteristics of all military retirement plans and describe how different plans provide for these characteristics. You will then be asked to judge how each plan fulfills these defined characteristics.

Third, you will be asked how important you think these characteristics are in relation to each other and as part of an entire retirement plan.

Finally, four alternative military retirement plans will be displayed in total and you will be asked to rank them by how you think they meet your needs and the needs of the service.

I realize that thoughtful completion of this survey will require a significant amount of your time. The topic of alternative military retirement plans is somewhat complex; and unless you are familiar with the recent proposals, it might take some concentration on your part to grasp the concepts and facts outlined in this survey. Experience with your peers indicates that it may take you 30 to 60 minutes

to complete this survey. However, your replies will be carefully analyzed and might contribute to a better understanding of how Military People perceive retirement plans. If you would like a copy of the results, please fill out the last page of the survey, detach it and route it to SMC 1783 separately from the questionnaire section (to preserve your anonymity).

In any event, please complete the survey and slot it to SMC 1783.

In advance, I thank you for your consideration and time.

II. SURVEY QUESTIONS

A. PERSONAL DATA

Q1. Please circle your status:

a. Branch: USA, USN, USAF, USMC, USCG,
Other_____

b. Rank: O 1, O 2, O 3, O 4, O 5, O 6, other_____

c. Sex: male, female

Q2. How would you categorize the effect that existence of a military retirement plan had on your decision to enlist in the service? (Circle one)

a. No effect

b. Little effect

c. Significant effect

d. I wouldn't have enlisted without the military's retirement plan

e. I was drafted and had no choice

Q3. When you first joined the service, what were your career intentions? (Circle one)

a. Intended to stay in only for initial obligation

b. Was unsure

c. Intended to stay until first eligible for retirement; then get out

d. Intended to stay beyond initial retirement eligibility

Q4. What are your career intentions now? (Circle one)

a. Get out as soon as my current obligation is over

b. Unsure

c. Stay in until I can retire, then get out

d. Stay beyond first retirement eligibility

Q5. How many years of service do you have so far? (Circle one)

a. One to 5 years

b. Six to 10 years

c. Eleven to 15 years

d. Sixteen to 20 years

e. Over 20 years

B. COMPARISON OF RETIREMENT PLANS BY COMPONENT CHARACTERISTICS

Military retirement plans have several key characteristics in common. Six of them are defined below followed by descriptions of how different retirement plans might fulfill these characteristics. You will be asked to judge how you feel each possible option measures up to each of the defined characteristics. While the definitions that follow may not correspond exactly to your prior notion of the meaning for these terms, please consider them as accurate for the purpose of survey standardization. Also, remember to answer based on what you think is best for you and the service.

1. early retirement

Early Retirement: If a retirement plan provides for receipt of retirement pay (annuities) before age 65 (the usual retirement age in the U.S.), it offers "early retirement" to some degree. A common reference measure for the extent of early retirement is "time eligible to receive retirement pay". The amount of the annuity is not an issue when considering this characteristic; the concern is rather when the annuities begin.

For example, receiving retired pay (1) at age 42 after 20 years service or (2) at age 52 after 30 years service are both examples of "early retirement" situations by our definition. However, the first case would fulfill this characteristic to a greater extent since retirement is permitted at an earlier age.

With respect to the early retirement characteristic,
let us consider three options:

Plan A

Time eligible to receive retired pay:
immediately after 20 yrs. of service (YoS)

Plan B

Time eligible to receive retired pay:
with 10 to 19 YoS, at age 62
with 20 to 29 YoS, at age 60
with 30 or more YoS, at age 55

Plan C

Time eligible to receive retired pay:
with 10 to 20 YoS, at age 60
with 20 YoS, immediately receive reduced annuities
until age 60, when full annuities begin.

Q6. Rank order your preference for the way these plans
provide for the early retirement characteristic (the best
being number 1, etc.,)

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2 3
B	1 2 3
C	1 2 3

Q7. To further quantify your preference, judge how you feel
each of these options fulfills the defined early retirement

characteristic on a zero to 100 scale (i.e. 100 would represent complete fulfillment, 50 would be half fulfillment, etc.)

<u>Plan</u>	<u>Fulfillment(fill in 0 to 100 for each)</u>
-------------	---

A	-----
---	-------

B	-----
---	-------

C	-----
---	-------

2. annuities

Annuities are funds paid to a retiree as a result of his previous service. Annuities are also called "retired pay". The degree to which a retirement plan fulfills this characteristic is determined by the amount or size of the annuities; it is not concerned with when the retired pay begins.

With respect to the "Annuities" characteristic, there are three possible options to choose from:

Plan A

Annuity formula, 2.5% of base pay for each YoS up to 30 yrs.

Examples: Retirement at 20 YoS would yield annuities equal to 50% of base pay; 30 YoS would result in the maximum of 75% base pay in retirement annuities.

Plan B

Annuity formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS
for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 to 35 YoS: 2.75% of base pay for each YoS

Examples: When one reaches the time eligible to receive retired pay, 10 YoS would yield $(5 \times 2\% + 5 \times 2.25\%)$ 21.25% of base pay; 20 YoS would return $(5 \times 2\% + 5 \times 2.25\% + 10 \times 2.75\%)$ 48.75%; 30 YoS would result in receiving annuities of $(5 \times 2\% + 5 \times 2.25\% + 20 \times 2.75\%)$ 76.25%; 35 YoS would yield the maximum of 90% of base pay in retirement annuities.

Plan C

Annuity formula:

First step annuities, paid from retirement until age 60

for 1 to 10 YoS: 1.75% of base pay for each YoS
for 11 to 20 YoS: 2% base pay for each YoS
for 21 to 30 YoS: 2.5% base pay for each YoS

Second step annuities, beginning at age 60

for 0 to 5 YoS: 2% of base pay for each YoS
for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 to 30 YoS: 2.75% of base pay for each

YoS

Examples: First step annuities would range from 37.5% of base pay with 20 YoS to 62.5% for 30 YoS. Second step annuities would pay 21.25% for 10 YoS, 48.75% for 20 YoS and a maximum of 76.25% for 30 YoS.

Q8. Rank order your preferences for the way these plans meet the annuity characteristic.

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2 3
B	1 2 3
C	1 2 3

Q9. Now judge how well these plans meet the requirements of the annuity characteristic by grading it s fulfillment on a zero to 100 scale.

<u>Plan</u>	<u>Fulfillment(fill in 0 to 100 for each)</u>
A	-----
B	-----
C	-----

3. vesting

Vesting provides eligibility for some sort of retirement entitlement (either an immediate lump sum payment before or after separation, an annuity received in old age, or a combination of both) before the normal retirement point. This eligibility accrues irrespective of whether or not an individual remains in the service until "normal retirement".

With respect to the "vesting" characteristic, there are four possible options to choose from:

No vesting

Example: If you voluntarily separate before the normal retirement point, you receive nothing.

Plan B

Members qualify after 10 years of service for an old age annuity by the following formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS

for 11 plus YoS: 2.75% of base pay for each YoS

Additionally, a "deferred compensation trust fund" is set up after five years of service. This amount would be payable in total, in part, or in combination after 10 YoS. On separation, it could be collected in total or drawn in monthly or annual payments. This trust fund would accumulate by the following formula:

<u>Yrs. Service</u>	<u>% of Base Pay Accumulated per YoS</u>
6 to 11	20%
11 to 20	25%
21 to 25	15%
25 to 30	5%

Example: If you separated at 10 YoS, you would receive an old age annuity of 21.25% of base pay plus you would have a trust fund of about 20% of your average pay over the last 5 yrs.

Plan C

Members qualify at 10 years service for an old age annuity. Payments would be by the following formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 plus YoS: 2.75% of base pay per YoS

Example: 10 YoS would result in an old age annuity of 21.25% of base pay.

Plan D

Members qualify at 10 years service for either:

an old age annuity by the formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS
for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 plus YoS: 2.75% of base pay for each YoS

or early withdrawal cash in the amounts:

for YoS 1 to 10, one mo. pay per YoS
for YoS 11 to 15, two mo. pay per YoS

Example: 10 YoS would result in an old age annuity of 21.25% of base pay or 10 months pay in early withdrawal cash.

Q10. Rank order these four options according to how you feel they provide for the vesting characteristic (with the best being number 1, etc.)

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2 3 4
B	1 2 3 4
C	1 2 3 4
D	1 2 3 4

211. Now judge how well these options fulfill the vesting characteristic by grading each on a zero to 100 scale.

<u>Plan</u>	<u>Fulfillment(fill in 0 to 100 for each)</u>
A	-----
B	-----
C	-----
D	-----

4. severance pay

Severance Pay is money paid to those involuntarily separated from the service before the normal retirement point.

With respect to the severance pay characteristic, there are three options to choose from:

Plan A

Appendix B

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Officers only with from 5 to 19 YoS receive severance pay by the following formula:

two months pay for each YoS, not to exceed 2 yrs. base pay or \$15,000 (which ever is less)

Plan B

Involuntary separation would result in severance pay for officers and enlisted by the following formula:

for 5 to 10 YoS; one quarter of one mo. pay per YoS.

for 11 to 30 YoS; one half of one mo. pay per YoS.

Plan C

Involuntary separation would result in severance pay for officers and enlisted by the formula:

5% of base pay for each YoS

Q12. Rank order these options according to how you feel they provide for the severance pay characteristic

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2 3
B	1 2 3
C	1 2 3

Q13. Now judge how well these options fulfill the severance pay characteristic on a zero to 100 scale.

Plan Fulfillment (fill in 0 to 100 for each)

A -----

B -----

C -----

5. benefits

Benefits refer to eligibility for medical care, commissary and exchange privileges.

With respect to the benefits characteristic, there are two options from which to choose:

Plan A

No eligibility for those leaving with less than 20 YoS; immediate eligibility to persons retiring with 20 or more YoS.

Plan B

If one leaves the service with:

less than 15 YoS; never eligible

15 to 24 YoS; eligible at age 60 or 62

25 or more YoS; eligible immediately

Q14. Rank order your preference for these two benefit options.

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2
B	1 2

Q15. Now judge how well these options fulfill the benefits characteristic on a zero to 100 scale.

<u>Plan</u>	<u>Fulfillment(fill in 0 to 100 for each)</u>
A	-----
B	-----

6. grandfathering

Grandfathering is the extent to which those now serving will be able to utilize the current retirement system or choose whether their retirement will be governed by the old or new system, if and when a new plan is enacted.

With respect to the grandfathering characteristic, there are three possible options:

Plan A

Any member with 4 or more YoS when the new rules took effect would remain under the old retirement system.

Plan B

All those on active duty when the new retirement system was enacted would continue to be covered by the old

system.

Plan C

When the new system took effect, all those on active duty could stay with the old system or they could opt to switch to the new system by obligating 4 additional YoS.

Q16. Rank order your preferences among these three options.

<u>Plan</u>	<u>Rank(circle ranking for each plan)</u>
A	1 2 3
B	1 2 3
C	1 2 3

Q17. Now judge how well you think these options fulfill the grandfathering characteristic, using a zero to 100 scale.

<u>Plan</u>	<u>Fulfillment(fill in 0 to 100 for each)</u>
A	-----
B	-----
C	-----

C. RELATIVE IMPORTANCE OF THE CHARACTERISTICS WITHIN RETIREMENT PLANS

Now you have seen the definitions of the characteristics that make up military retirement plans. Further, you have

been exposed to how different plans fulfill these characteristics to varying degrees.

The following two questions deal with how important you feel these characteristics are within a whole retirement plan. Again, remember to base your judgement on what you think is best for you and the service.

Q18. Rank order the six characteristics, with 1 being the best, to show how important you feel they are within a military retirement plan. Circle a number after each characteristic to indicate it's rank. Ties are permitted.

<u>Characteristic</u>	<u>Rank</u>
Early Retirement	1 2 3 4 5 6
Annuities	1 2 3 4 5 6
Vesting	1 2 3 4 5 6
Severance Pay	1 2 3 4 5 6
Benefits	1 2 3 4 5 6
Grandfathering	1 2 3 4 5 6

Q19. To further detail how important you feel each characteristic is within a whole retirement plan, weight each characteristic on a 100 point scale. Please fill in the value you would assign to each of the six defined characteristics, remembering that each weight must be between zero and 100.

<u>Characteristic</u>	<u>Weight Value(fill in)</u>
Early Retirement	-----
Annuities	-----
Vesting	-----
Severance Pay	-----
Benefits	-----
Grandfathering	-----

D. RANKING TOTAL RETIREMENT PLANS

On the following pages you will find four complete military retirement plans . The plans are described in terms of the six characteristics defined earlier. Please review each plan, compare them, and indicate your preference among these whole plans by rank ordering them in question 20.

1. Plan one

a. early retirement

Time eligible to receive retired pay:
immediately after 20 yrs. of service (YoS)

b. annuities

Annuity formula: 2.5% of base pay for each YoS
up to 30 yrs.

c. vesting: none

d. severance pay

Officers only with from 5 to 19 YoS receive
severance pay by the following formula:

two months pay for each YoS, not to exceed 2 yrs.
base pay or \$15,000 (which ever is less)

e. benefits

No eligibility for those leaving with less than
20 YoS; immediate eligibility to persons retiring with 20 or
more YoS.

f. grandfathering: NA; this is current plan



2. Plan two

a. early retirement

Time eligible to receive retired pay:
with 10 to 19 YoS, at age 62
with 20 to 29 YoS, at age 60
with 30 or more YoS, at age 55

b. annuities

Annuity formula:
for 1 to 5 YoS: 2.00% of base pay for each YoS
for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 to 35 YoS: 2.75% of base pay for each YoS

c. vesting

Members qualify after 10 years of service for an old age annuity by the following formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS
for 6 to 10 YoS: 2.25% of base pay for each YoS
for 11 plus YoS: 2.75% of base pay for each YoS

Additionally, a "deferred compensation trust fund" is set up after five years of service. This amount would be payable in total, in part, or in combination after 10 YoS. On separation, it could be collected in total or drawn in monthly or annual payments. This trust fund would accumulate by the following formula:

<u>Yrs. Service</u>	<u>% of Base Pay Accumulated per YoS</u>
0 to 11	20%
11 to 20	25%
21 to 25	15%
25 to 30	5%

d. severance pay

Involuntary separation would result in severance pay for officers and enlisted by the following formula:

for 5 to 10 YoS; one quarter of one mo. pay per YoS.

for 11 to 30 YoS; one half of one mo. pay per YoS.

e. benefits

If one leaves the service with:
less than 15 YoS; never eligible
15 to 24 YoS; eligible at age 60 or 62
25 or more YoS; eligible immediately

f. grandfathering

Any member with 4 or more YoS when the new rules took effect would remain under the old retirement system.

3. Plan three

a. early retirement

Time eligible to receive retired pay:

with 10 to 20 YoS, at age 60

with 20 YoS, immediately receive reduced annuities until age 60, when full annuities begin.

b. annuities

Annuity formula:

First step annuities, paid from retirement until age 60

for 1 to 10 YoS: 1.75% of base pay for each YoS

for 11 to 20 YoS: 2% base pay for each YoS

for 21 to 30 YoS: 2.5% base pay for each YoS

Second step annuities, beginning at age 60

for 0 to 5 YoS: 2% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS

for 11 to 30 YoS: 2.75% of base pay for each

YoS

c. vesting

Members qualify at 10 years service for an old age annuity. Payments would be by the following formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS

for 11 plus YoS: 2.75% of base pay per YoS



d. severance pay

Involuntary separation would result in severance pay for officers and enlisted by the formula:

5% of base pay for each YoS

e. benefits: not yet addressed

f. grandfathering

All those on active duty when the new retirement system was enacted would continue to be covered by the old system.



4. Plan four

a. early retirement

Time eligible to receive retired pay:
with 10 to 20 YoS, at age 60
with 20 YoS, immediately receive reduced annuities
until age 60, when full annuities begin.

b. annuities

Annuity formula:

First step annuities, paid from retirement until
age 60

for 1 to 10 YoS: 1.75% of base pay for each YoS

for 11 to 20 YoS: 2% base pay for each YoS

for 21 to 30 YoS: 2.5% base pay for each YoS

Second step annuities, beginning at age 60

for 0 to 5 YoS: 2% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS

for 11 to 30 YoS: 2.75% of base pay for each

YoS

c. vesting

Members qualify at 10 years service for either:

an old age annuity by the formula:

for 1 to 5 YoS: 2.00% of base pay for each YoS

for 6 to 10 YoS: 2.25% of base pay for each YoS

for 11 plus YoS: 2.75% of base pay for each YoS

or early withdrawal cash in the amounts:
for YoS 1 to 10, one mo. pay per YoS
for YoS 11 to 15, two mo. pay per YoS

d. severance pay

Involuntary separation would result in severance pay for officers and enlisted by the formula:

5% of base pay for each YoS

e. benefits: not yet addressed

i. grandfathering

When the new system took effect, all those on active duty could stay with the old system or they could opt to switch to the new system by obligating 4 additional YoS.

Q20. Now that you have reviewed and compared the four complete retirement plans, rank order them below, with the plan you judge best being number 1. Ties are permitted. Also, remember to make your judgement based on what you feel is best for you and the service.

<u>Plan</u>	<u>Rank(circle ranking for each)</u>
one	1 2 3 4
two	1 2 3 4
three	1 2 3 4
four	1 2 3 4

III. FEEDBACK REQUEST

If you would like a summary of the evaluated results of this survey, please fill in your name and address below and slot this sheet (detached from your survey to preserve your anonymity) to SMC 1783.

NAME _____

SMC or address (if you will not be at NPS through June '79)

RETURN TO SMC 1783

APPENDIX C

STATISTICAL TABLES

ANOVA TABLE

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>
Columns	2.242	5	.448	106.704
Error	6.479	1542	.004	

Figure 50 - ANOVA, RAW CHARACTERISTIC IMPORTANCE
WEIGHTS LISTED IN FIGURE 8.

Appendix C

ANOVA TABLE, Early Retirement Characteristic

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>
Columns	465,274.893	2	232,637.447	444.653
Error	403,378.740	771	523.189	

ANOVA TABLE, Annuities Characteristic

Columns	125,342.624	2	62,671.313	98.588
Error	490,112.659	771	635.684	

ANOVA TABLE, Vesting Characteristic

Columns	352,182.674	3	117,394.225	131.145
Error	920,213.038	1028	895.149	

ANOVA TABLE, Severance Pay Characteristic

Columns	16,294.226	2	8,147.113	8.785
Error	715,054.109	771	927.437	

ANOVA TABLE, Benefits Characteristic

Columns	175,895.302	1	175,895.302	108.289
Error	417,448.865	257	1,624.315	

ANOVA TABLE, Grandfathering Characteristic

Columns	11,729.562	2	5,896.281	6.694
Error	679,121.576	771	880.832	

Figure 51 - ANOVA, CHARACTERISTIC FULFILLMENT SCORES

Appendix C

ANOVA TABLE

<u>SOURCE</u>	<u>SUM OF SQUARES</u>	<u>D.F.</u>	<u>MEAN SQUARE</u>	<u>F</u>
Columns	75,303.690	3	25,101.030	100.530
Error	256,678.953	1028	249.638	

Figure 52 - ANOVA, RELATIVE WEIGHTED PREFERENCE

Appendix C

CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
1.	ARMY	1749.0000	64.7778	25.8313	17348.6667	(27)
2.	NAVY	8225.0000	45.1923	28.9581	151782.2692	(182)
3.	USAF	852.0000	56.8000	32.3931	14690.4000	(15)
4.	USMC	1041.0000	49.5714	28.2835	15999.1429	(21)
5.	USCG	640.0000	53.3333	21.5674	5116.6667	(12)
6.	OTHER	40.0000	40.0000	0.0	0.0	(1)
TOTAL		12547.0000	48.6318	28.5174	204937.1454	(258)

ANALYSIS OF VARIANCE					
SOURCE	SUM OF SQUARES	D.F.	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	10550.874	5	2110.175	2.595	0.0261
WITHIN GROUPS	204937.145	252	813.243		
ETA = 0.2213		ETA SQUARED = 0.0490			

Figure 53 - Breakdown of Severance Pay Weight by Branch of Service

X CODE	VALUE LABEL	SUM	MEAN	STD DEV	SUM OF SQ	N
E	OVER 20 YEARS	95.0000	95.0000	0.0	0.0	1
D	16-20 YEARS	635.0000	48.8462	34.6503	14407.6923	13
C	11-15 YEARS	5732.0000	69.9024	28.5215	65893.2195	82
B	6-10 YEARS	8448.0000	70.9916	29.6798	103944.9916	119
A	1-5 YEARS	2551.0000	59.3256	34.7588	50743.4419	43
WITHIN GROUPS TOTAL		17461.0000	67.6783	30.4764	234989.3453	255

```

ANALYSIS OF VARIANCE

SOURCE          SUM OF SQUARES    D.F.    MEAN SQUARE    F    IC.
BETWEEN GROUPS    10068.953         4      2517.238      2.716  0.0307
WITHIN GROUPS    234589.345       253      928.812
ETA = 0.2027    ETA SQUARED = 0.0411

```

Figure 5/4 - BREAKDOWN OF GRANDFATHERING SECDEF BY YOS

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